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PURPOSEFUL HANDWORK

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PURPOSEFUL HANDWORK

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PURPOSEFUL HANDWORK

BY

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INSTRUCTOR IN KINDERGARTEN AND FIRST GRADE
LOS ANGELES, CALIFORNIA

ILLUSTRATED BY

CHARLES W. COOPER

New York

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To

MY HUSBAND

AND

MY LITTLE DAUGHTER

PREFACE

It is my hope that this little manual will be regarded by the lay teacher as a compilation of suggestions, and not as an extensive study, or final treatise on handwork. As society evolves, education must change to keep apace with it, so may this text serve as a waypost, not a goal.

It was not my intention, originally, to write a book; the need developed and I met it as I could. The content of these few pages is the result of eight years of work, including experimental kindergarten and first grade teaching, physical education supervision in the elementary school, and Normal Training School instructing.

I do not claim it to be original. It is a compilation of suggestions and ideas which have come to me from my own little daughter, from the children whom it has been my good fortune to teach in public schools, from Normal School students, from observation of daily life, and from individual study.

The projects described have been worked out in an average one-teacher, one-room public school kindergarten or first grade of mixed population.

I am deeply indebted to the many instructors and co-workers who, with their inspiration and guidance, have blazed the educational trail for me. Special acknowledgments are due to Caroline Crawford McLean of Teachers College, Columbia University, who awakened in me an appreciation of childhood, with all its fullness and joy; to Gudron Thorne-Thomsen of the Francis Parker School in Chicago, who taught me to appreciate the art of simplicity, the means of gaining the genuine confidence of the child; to Patty Smith Hill of Teachers College, Columbia University, who has stood out as the leader in freeing kindergarten education from its traditional swaddling clothes; to my beloved supervisor in training school, Mary King Drew, who gave me an appreciation of organization and method; and to Clark W. Hetherington, former State Supervisor of Physical Education in California, who gave me an understanding of the psychology of play, and since play is inseparable from childhood, a functioning psychology of childhood.

Jane W. McKee.

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PURPOSEFUL HANDWORK

CHAPTER I

The Psychology of Handwork

In order that I may set forth my findings in the field of purposeful handwork, it will be necessary for the reader to traverse rapidly with me the first psychological stage in the process of manual activity; namely, manipulation.

My conclusions in the matter of manipulation are the results of experimental studies with numerous children in the elementary school, and particularly with those between the ages of four and seven years.

In reviewing the records of my own daughter's early experiences I was confronted with the fact that with every new experience, physical and intellectual, she first went through a testing period of spontaneous, motiveless movements which finally brought the acts consciously before her, clarifying her mental images and coördinating her muscular activities. With each new situation the length of the manipulation period varied in proportion to its relation to past experiences.

I took this conception of the importance of manipulation into the kindergarten with me and there I set the children free in self-organized activities. I found manipulation to be a never absent antecedent of every new experience they went through. According to Norsworthy and Whitley, in *The Psychology of Childhood*, the fact "that the field of energy furnished by this instinct as well as the possibilities offered should have been practically ignored in our schools for so many years seems almost incredible."

I observed manipulation to be an individual unfoldment on the child's part, for no teacher is wise enough to tell how long it will take these crude, unconscious twistings, turnings, pullings, pushings, scribblings, snippings, pokings, cuttings, and daubings, to develop into conscious usable activity. There is but one person who appreciates when the transition from the manipulation to the problem stage takes place; and this is not the teacher, but the child himself who, although he does not consciously know, yet registers his progress through his choices and actions, provided we give him half a chance freely to make choices and to carry them out.

Granting that manipulation is as legitimate a phase of development as the problem or project phase, shall we permit the child, in developing his powers of manipulation, to ruin expensive materials by

wasteful hacking into them? If the teacher is to be eliminated, the result will be disorder and reckless waste, and abuse of equipment and materials. We can never eliminate the teacher from an educational situation. She is the selective agent. She directs the manipulating child to materials that best fit his need; as, remnants of goods, misfit lumber, odd papers, etc. Do not misunderstand me; I do not advocate supplying the manipulating child with old waste materials. His materials should be just as good and as clean and attractive as the problem or project supplies of a later period; but they may often be the incorrect cuts and trimmings from such supplies.

This psychology of manipulation opened up the natural sequence of the kindergarten-primary curriculum to me. In the past we have omitted initial manipulation. It has been ignored because it seemed, to the untaught, wasteful and its results ugly. We have preferred to recognize the second or problem stage as the first because its results "showed off" to better advantage, because it made good school advertising.

As selective agent, the teacher watches and records the natural selections, introduces materials best fitting the child's needs as they arise, builds up situations that will satisfy these crude yearnings, supervises the exercises, removes the situations when they climax — thus avoiding disorder — pre-

vents overstimulation in environment by simplifying the surroundings, listens to the child's suggestions, and follows his lead.

As the children grow through manipulation, as their images clarify and their muscles coördinate, those with similar tastes and skills form into separate groups. In these simple, self-organized groups the first little lessons are born; the first small problems, whose ends are immediate, are suggested; as, to cut on the line, sew a seam, or tie a knot; and the first simple patterns are displayed. This is the second, or problem stage. Must the children follow the patterns suggested? No, not if they have a plan of their own. Never, if they themselves have another legitimate interest, socially valuable, in relation to which they can work.

In the problem stage the child's mind has been freed from the all-absorbing manipulation, through the development of habits of thought and action. He is free to think something beyond consciousness of skill and process, so he thinks ends, and means of attaining the ends set up. Thus is the conscious problem established.

As the child gains skill in working with problems which are simple plots, he combines plots, interweaves them, and works them into what we term projects; for example, a child models a clay flowerpot, paints and shellacs it, and brushes the inside

with paraffin; then he fills it with earth, plants a seed in it, waters and cares for it, and takes the plant home to his parents.

In observing these self-directed activities I found the children in the problem and project stage to be engaged in three types of handwork:

1. Making "play-toys."
2. Making articles of utility.
3. Decorating articles of utility and "play-toys."

The pictures in this book are taken from the children's own work or from teachers' models of articles which children have made and carried home.

CHAPTER II

Purposeful Handwork

Children are interested in real things, not in patterns or symbols of things. They are interested in investigating and originating; in being a cause, and in causing an effect. "Sheer imitation, dictation of steps to be taken, mechanical drill, may give results most quickly and yet strengthen traits likely to be fatal to reflective power." (Dewey.) Then let us teach children real things, things that function now, not at some future date. Let us help the child to live fully and efficiently in the "to-day."

Among the traditional customs of the formal kindergarten is its use of such expensive made-to-order materials as coated paper, folding paper, cutting paper, chain paper, weaving mats, sewing cards, weaving needles, etc. Cases on record show the failure of such materials to carry the kindergarten-primary lessons into demonstration in the home. Twenty hours out of the twenty-four the kindergarten-primary child is in and about the home. Let us, in that four hours allotted the school, prepare him to enjoy and invest properly the twenty

hours spent at home. How can we do this? By introducing into the school the materials used in the equipment of the home, and by dignifying and honoring them. And what are these home materials? Roughly speaking — dolls, clothes, furniture, wash-tubs, ironing board, flatiron, broom, wood, tools, paint, wrapping paper, paper bags, string, spools, milk-bottle tops, tin cans, cardboard boxes, cloth, berry boxes, pins, buttonmolds, coat hangers, etc. Let us teach thrift by showing the child how materials commonly wasted about the home may be converted into attractive, useful articles, and let us give him at school the inspiration, the idea, and the opportunity of doing this; then we shall note with joy the functioning of our lessons in his life out of school as well as in.

As the situation is to-day, the warehouses are not prepared to fill our requisitions for supplies for purposeful handwork. The keepers of school supplies are at a loss when we ask for buttonmolds, paper bags, milk-bottle tops, collar buttons, dyes, cloth, and wood. How then are we to obtain these supplies that at the present do not come through the established channels of requisition? Until the need for the cruder home materials has been recognized through the keeping of records and through exhibits of purposeful handwork, we must turn to the child himself for the solution of our common problem of

limitation. He is at once eager to coöperate when we give the first hint that such contributions are needed and will be gratefully accepted. Through this medium of exchange, bonds are strengthened between home and school, drawing the two into interdependent relationship, with the child as intermediary. The mother will be quite as happy to see her child leave home, a veritable Santa Claus, with his pack on his back filled with empty cereal boxes, coffee cans, milk-bottle tops, and paper bags, as the teacher will be to greet her source of project supplies. The inherent possibilities of the crude materials he is carrying will have ample time to suggest and unfold themselves in the child's constructive imagination with each step he takes in the direction of the "school-shop," where his treasures will be valued and transformed, as by fairy art, into attractive toys and useful articles.

With the crude material at school, our next problem is, What is the method to be employed in its transformation? If our aim is to follow with wisdom the trend of the times in stimulating originality and resource on the part of the child, this sentence from *The Psychology of Childhood* by Norsworthy and Whitley comes to us with a message: "Originality of performance follows a variety of experiences and an increase of technique, and it should not be required until many concrete examples have been presented."

Before the days of project teaching, when we spoke of methods we referred to dictation, imitation, and suggestion. To-day these same methods function in teaching a child, but only after the project has been launched. The methods used in launching the project may be listed as follows:

1. Arrange a table attractively and suggestively with units of supply material distributed about in an orderly fashion. These may be miscellaneous boxes, milk-bottle tops, paper fasteners, string, paper, and scissors. The child is privileged to use any or all of this material in experiment. He may work out for himself a wagon, an automobile, a piano, an airplane, a doll's bed. At first no models are presented, but as the children work the teacher calls attention to various good combinations or patterns. She aims to lift the child's responses and to hold him to his best work.

2. The second method is that of presenting simple, well-worked-out models for the children to examine, test out, and imitate as they choose, at the same time exposing units of material for their construction. When the child is in possession of a mental vocabulary of images which he has translated into concrete articles he is then in a position to work out original designs and offer individual changes and elaborations. Once the child's purpose is clear, his interest in it is the driving force which impels him

to deviate from patterns and experiment with the type models. His purpose developed, he forges ahead on his own initiative, elaborating and enlarging upon his idea as it unfolds and takes form. With this individualizing of a basic unit comes the birth of new ideas and models. During this process of developing his model, the child may stumble many times and need some aid and much encouragement from the teacher. As a group working over similar projects reaches a stumbling block or limit of ability, the teacher steps in and gives a group lesson. This lesson, therefore, comes at a time when it applies to an immediate problem, and when it is capable of being understood and can be immediately acted upon.

3. Often just the description of possible projects, or pictures, or articles that can be imitated in miniature, is all that is necessary to set the ingenuity of the child to work on his own invention. When this is the case the less the teacher offers of suggestion the better.

Personally I have obtained the best results from the use of methods 2 and 3, although many teachers use the first method exclusively.

Ask yourself if you are still clinging to the old theory that the child is a being to be prepared for living in some future period which he may never reach. Then remember, in case you have forgotten it, that

he is living now. "We must take the child as a member of society in the broadest sense, and demand for and from the school whatever is necessary to enable the child intelligently to recognize all his social relations and take his part in sustaining them." (Dewey.) It is as important to be a child as to be an adult, and it is the duty of the school to aid the child, through giving him ample opportunity to make and abide by wise choices, and to live in the present to the fullest and best extent. Let us discriminate between instruction the results of which remain within the four walls of the schoolroom and that which functions in aiding the child in complete living outside of the schoolroom.

When I dropped the "pre-program," planned by week or month in advance, and adopted the "post-program," a summary of the children's choices, project handwork took the place of what in the past had been teacher-imposed occupation on a miniature representative and pictorial plan. The children, feeling the spirit of the laboratory method, brought their broken dolls, scooters, engines, jumping-jacks, and books to the kindergarten workshop to be mended and repaired. This work of rejuvenating toys from the home helped to bridge the gap between home and school and to strengthen the bonds of sympathy, and gave the child a greater sense of pride in his possessions, and of desire to care for them. So

we made toys at kindergarten, real toys, toys we could take home and play with.

Clarifying my aims I sought for practical ideas that would utilize the materials of the home, have "do with" qualities, and be simple. From the children themselves I received most of my suggestions.

CHAPTER III

Handwork of Play Value

The following comprises my list of "play-toys." Any kindergarten or primary problem-project pupil can make them out of materials which he can find in his home.

1. **Folded Airplane.** — Use a piece of paper 6 inches by 9 inches, or of equal proportion, and fold it lengthwise, as in Plate 1, Figure II, *B* to *C*. Fold edge *B* to *F'* along crease *BC*. Fold edge *BF* along crease *BC*. Fold *BA'* along *BC*. Fold *BA* along *BC*. Turn the sheet over on the other side. Fold *BD'* along *BC*. Fold *BD* along *BC*. Turn the sheet over. Fold *BE'* along *BE*. Lift up the wings and place a paper fastener through *P* to hold the construction in place. (See Figure IV.) The airplane may then be decorated.

2. **Wooden Airplane.** — Use a piece of soft wood (basswood or red wood) approximately 20 inches long, 1 inch thick, and 2 inches wide. (See Plate 2, Figure I, *A*.) The upper front wing is about 1 foot long and the under front wing is about 10 inches long. Wooden pins are nailed in place between the

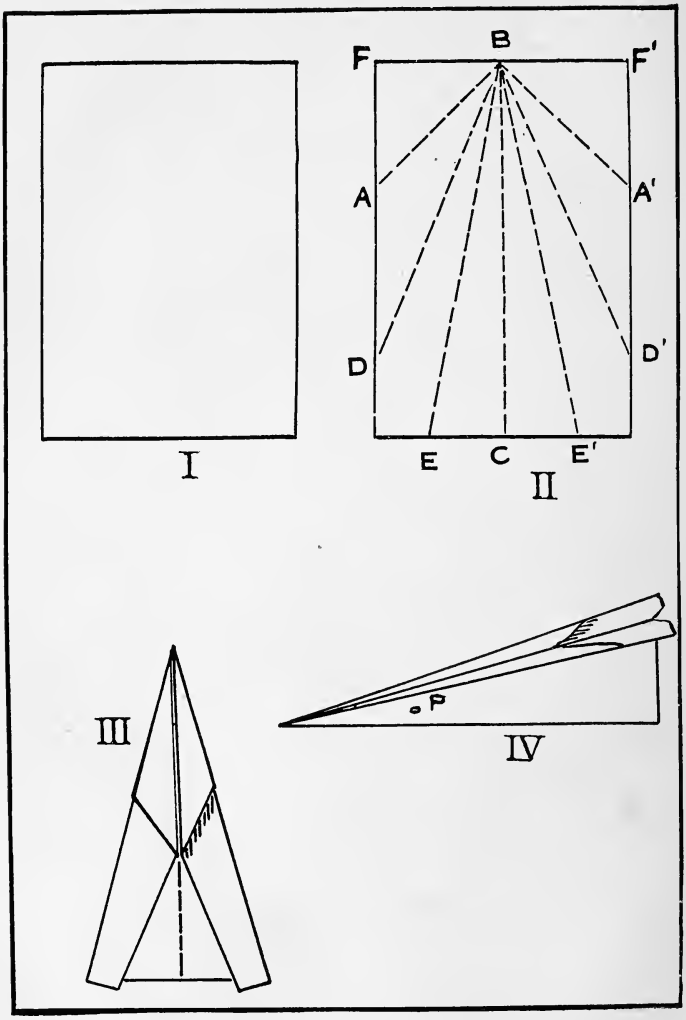


PLATE I

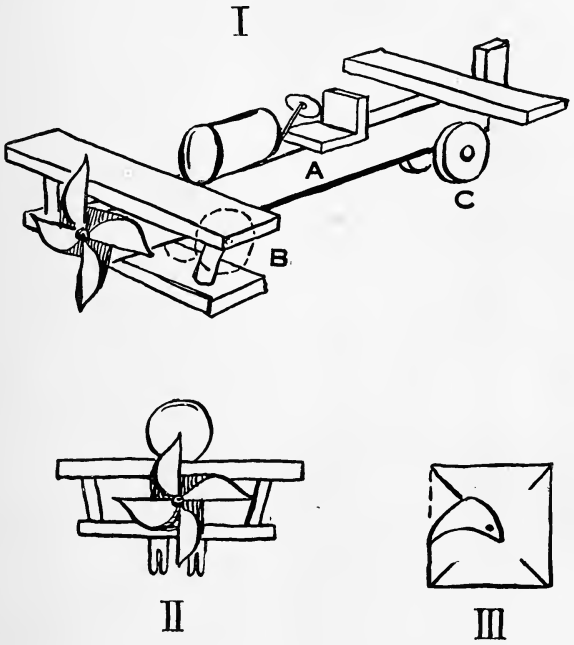
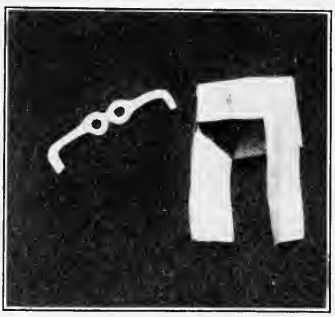


PLATE 2

wings to hold them apart. (Figure II.) The back wing is the same size as the under front wing. A tin can is nailed to board *A* just behind the front wing. A long nail with a milk-bottle top at the end is used for the steering wheel. A wooden seat is nailed to board *A* behind the wheel. Typewriter ribbon rolls, kodak rolls, or buttonmolds may be used for wheels. (See *B* and *C*, Figure I.) The propeller is a pinwheel made of paper, fastened to the front of board *A*. (See Figure III, for making pinwheel.) Stiff cardboard may be used for the wings in place of wood.

3. Clothespin Airplane. — Force a 6-inch stick (pencil size) into the groove of an old-fashioned clothespin. Glue stiff pieces of paper 3 inches square on both ends of the stick for wings. Tie a string to the head of the clothespin. The child holds the string and runs.



Aviation Helmet and Goggles

4. Aviation Helmet. — Use a paper bag large enough to fit the child's head. Open it up, and cut out the front face as in Plate 3, Figure I. Turn it over and cut out the back piece as shown in Figure II. These two side flaps go over the ears and hang down

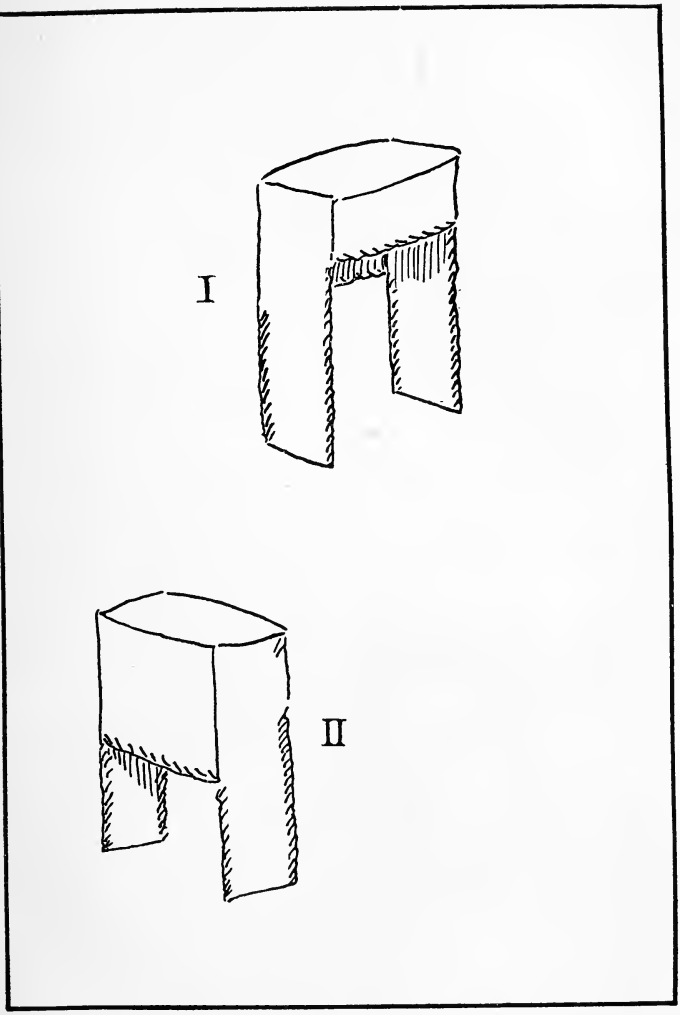


PLATE 3

to the shoulders. Figure I shows the front of the helmet. Bind the cut sides with strips of wrapping paper 1 inch wide sewed with colored yarn.

5. **Paper-bag Ball.** — Blow up or stuff with rags or paper snips a paper bag. Tie firmly, and decorate with brilliant paints (show-card colors). This makes an attractive ball for the youngest children to play with.

6. **Paper-bag Balloon.** — Blow up a paper bag and tie it securely. Decorate. Attach wings of lighter weight paper to the sides. From the tied end drop three strings, each 4 inches long, and attach these to a small sixteen-fold box or sanitary milk-bottle cap. The balloon is thrown into the air, basket end first. An interesting problem is the experiment of placing stones of different weights in the basket. The weight of the stone determines the speed of the balloon's descent.

7. **Parachute.** — Use a piece of cloth, handkerchief size. Work out stencil designs to be colored with paints or crayons in the center of the cloth. Tie a 6-inch string to each corner. Bring all the strings together at the end and tie them to a stick or stone. Throw it up into the air; as it comes down it opens and sails. Experiment by varying the weight of the stick or stone.

8. **Blow-out.** — Use a piece of light-weight wrapping paper 15 inches long and 6 inches wide. Fold

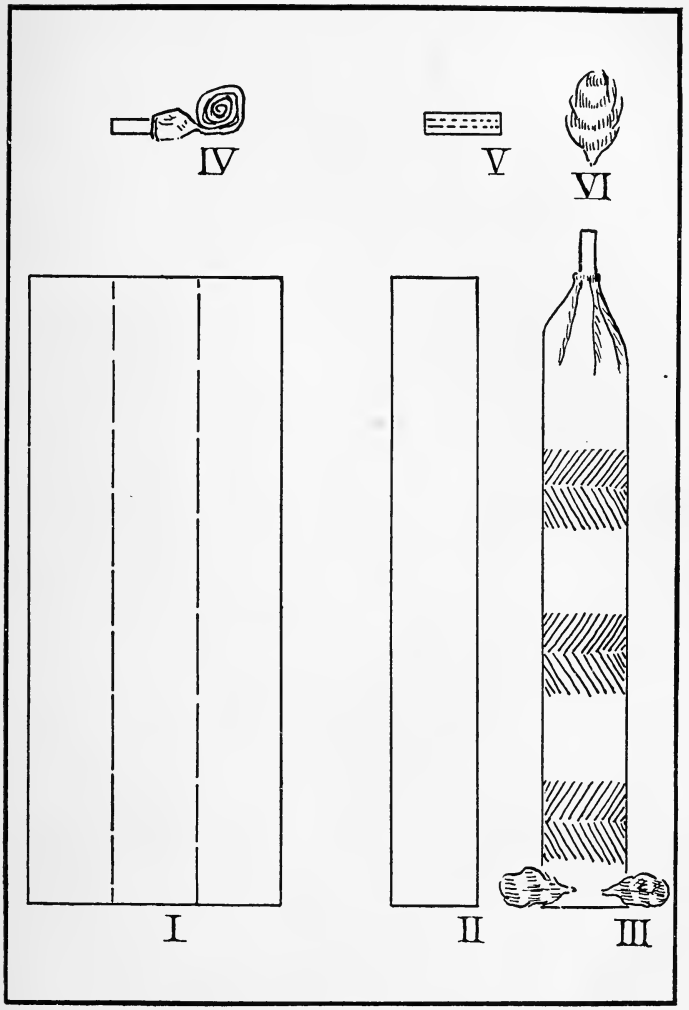
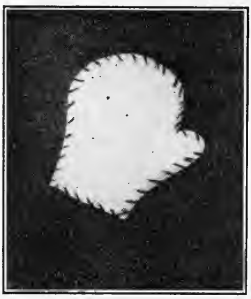


PLATE 4

in thirds, lengthwise, as in Plate 4, Figure I. Paste along the one side, forming a flattened 2-inch paper tube 15 inches long like that in Figure II. When the paste is dry, decorate this tube with paints or crayons. Glue a downy feather (Figure VI) to one end of the tube as in Figure III, and fasten a 1-inch piece of hollow bamboo (Figure V) to the other end for a mouthpiece. Roll it up as in Figure IV, and then blow it out.

BLOW-OUT

9. Bean Bag. — Cut a paper pattern for the child to use in getting the proper size and shape of material for making a bean bag. Use a heavy material. Sew the bag on three sides, turn it inside out and once more sew the three sides, using colored yarn this time. Partly fill the bag with beans and sew up the open side. The bag may then be decorated, using colored yarn, crayons, or paints.



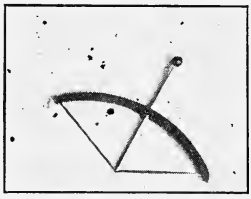
BASEBALL MITT

10. Baseball Mitt. — Use newspaper or wrapping paper. Draw an outline of the child's hand, in the

shape of a mitt, leaving a 1-inch margin and including the four fingers. Lay this pattern on four thicknesses of paper and cut out. Paste a strip of cloth one and one half inches wide around the edge and bind, or overwhip the edge with yarn. Place a layer of cotton on the inside for padding.

11. Willow Bow and Arrow. — Use a piece of willow or light bamboo for the bow. Bend and tie the bow with a string. Cut an arrow from shingle wood, and feather the light end.

12. Coat-hanger Bow and Arrow. — Use a large wooden coat hanger for the bow. Remove the hook and bore a hole $\frac{1}{2}$ inch wide in the middle and in both ends. Stretch a piece of elastic $\frac{1}{2}$ inch wide from the holes at either end. For the arrow, use a dowel stick 10 inches long and $\frac{1}{4}$ inch in diameter with a round wooden bead wired to one end. Shoot the arrow through the center hole in the bow.



Coat-hanger Bow and Arrow

13. Fluff Balls. — Make two cardboard circles, each 3 inches in diameter. Cut from the center of each a circle 2 inches in diameter and discard these 2-inch centers. The two 1-inch rims remaining are then placed together and wound full of yarn. Next the yarn is snipped along the circumference of these cardboard circles, thus exposing them. A piece of

cord is forced down between these circles and tied firmly and then the circles are torn out. To the cord a string may be attached, from which the ball may be held and swung. The ball is finished by being fluffed into shape and clipped.

14. Colored Balls. — Buy old tennis balls. Scrub them clean and dye them in bright colors.

15. Boomerang. — Cross two thin paddle-shaped pieces of wood 10 inches long and 1 inch wide, and secure them at the center. Whittle a depression on the right side of each paddle at the end. (See Plate 5, Figures I, II, and III.) The boomerang is held by one of these paddles and thrown into the air with a downward cut. If cut on the right side, the boomerang turns to the left and returns to the thrower. Experiment with placing the cuts on the left side also.

16. Butterflies. — Make two large floppy paper butterflies and color them. Sew the butterflies together down the center, and attach them to the end of a slender branch or string. The string or branch is held by the child, and the wings flop and flutter as he runs with the toy.

17. Motor Boat. — Use the lid of a cigar box. Cut a 2-inch square out of the center of one end. Saw the other end to a point. Make a wooden water wheel and fasten it in place in the center of the 2-inch square cut at one end. Wind the wheel up

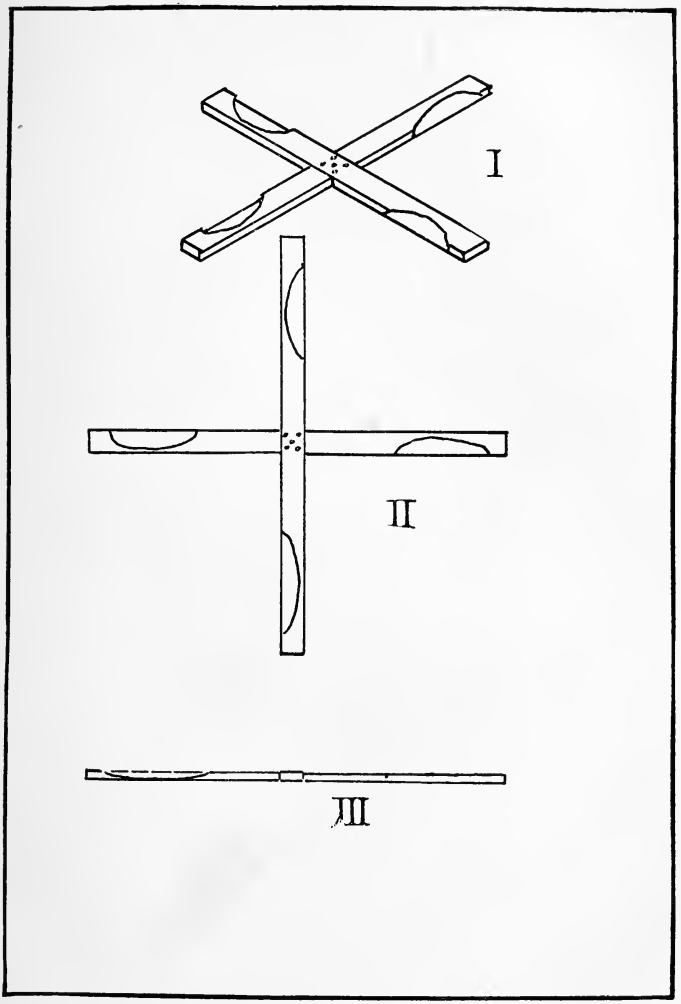


PLATE 5

with a rubber band and put the boat into a tub of water and it will go.

18. Sail Boat. — Take a block of wood, longer and wider than it is thick. Prepare a cardboard sail with a flap at the bottom to be folded at right angles. This flap is tacked to the board and enables the sail to stand erect and in place. Child may sail the boat in a tub of water.

19. Boy's Cap. — Use a piece of heavy wrapping paper $2\frac{1}{2}$ inches wide and as long as the size of the child's head measure, plus enough to overlap so as to form a peak in the front. This is made into a band and pasted. (See Plate 6, Figures I and II.) Out of tissue paper, or light-weight wrapping paper, a crown is cut a little larger than the inside dimension of the headband. This crown is drawn over the band and pasted on the outside. (See Figure III.)

20. Circus Clown. — Stuff the closed end of a paper bag and tie to form the clown's head; then paint on a face. Split the remainder of the bag up the center as far as the head. Stuff these two parts for legs, paste down the inside seams, and tie the ends for feet. Decorate or dress in brilliant colors.

21. Shoe-box Circus Wagon, I. — Put the box on four wheels and decorate it brilliantly. From the inside secure four cardboard posts extending 4 inches above the sides of the box. Place the lid

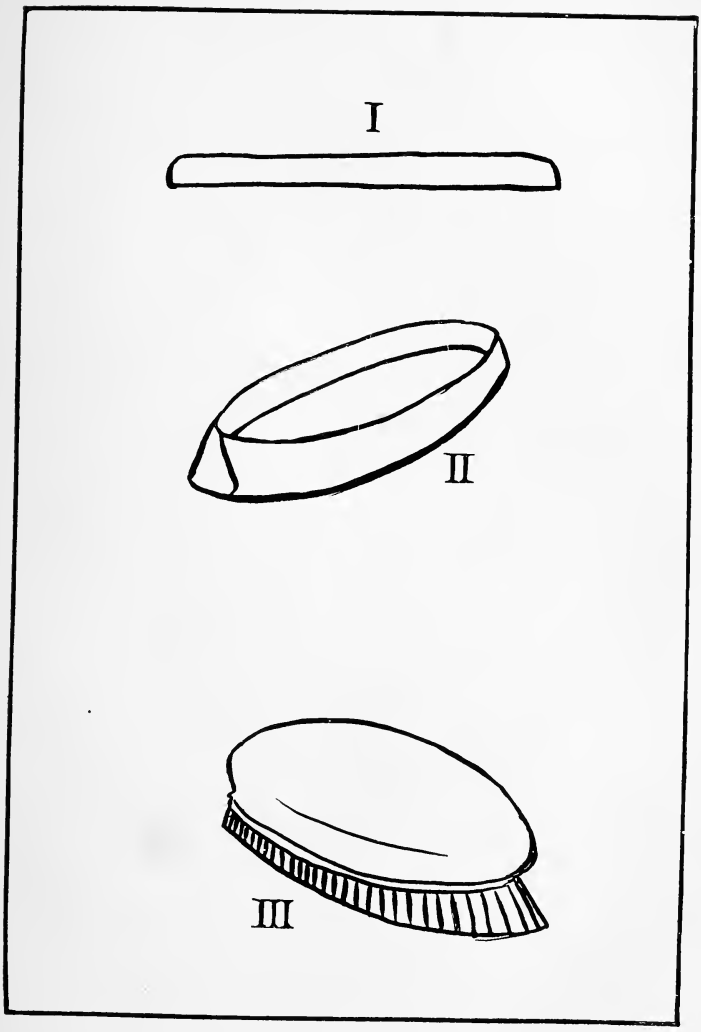


PLATE 6

of the box on top of these posts and trim with fluted papers of gay colors. Also decorate the wheels, posts, and top in the same way as the box.

(1) (2) (3)

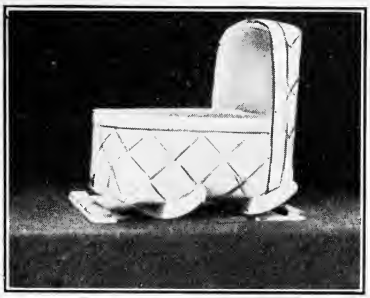
1. Shoe-box Circus Wagon, II
2. Circus Clown
3. Shoe-box Circus Wagon, I

22. Shoe-box Circus Wagon, II. — Turn a shoe box upside down, that is, with the open part down. Fasten on with paper fasteners four large wheels, made of cardboard. Paste silhouette animals on the sides of the box with bars represented. Decorate elaborately.

23. Clothespin Doll. — Use an old-fashioned clothespin. Secure a bit of cotton under a cloth and tie it over the head of the clothespin for a head. Draw in the face and color it, using colored crayons for eyes, lips, and hair. Cut out of wrapping paper an underdress with arms and hands attached. Put this on the clothespin and tie it in the middle to form the waistline. Make a dress and bonnet of crêpe paper and dress the doll in them.

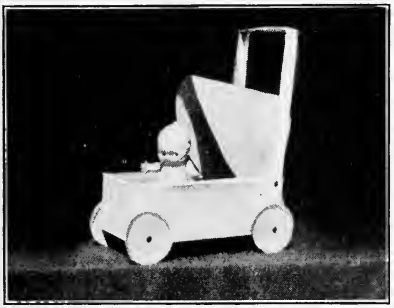
24. Cradle. — Use two chip baskets. Remove the handle, and nail one of the baskets on two coat hangers for rockers, the metal hooks having previously been removed from the coat hangers. Cut

the other basket in halves and fasten one half to an end of the cradle for the hood. Enamel the cradle in any color desired, and line it with cloth. The children may stencil a border design in pale pink and blue around the edge of a white cradle. They may also make mattress and pillows to fit, and hem the linen and tuft comforts for the cradles.



CRADLE

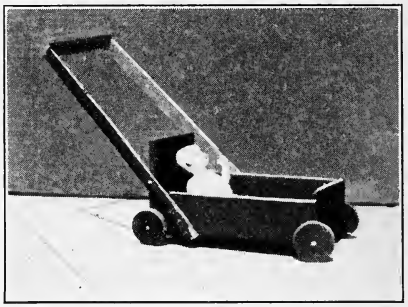
25. Shoe-box Doll Buggy.— Put a large shoe box on four cardboard wheels. Cut the edge off the lid of the box and fasten this edge in place with paper fasteners to form the handle. Make a hood out of heavy wrapping paper and attach this with the same fasteners that hold the handle. Decorate.



SHOE-BOX DOLL BUGGY

26. Basket or Box Doll Buggy. — A practical doll buggy can be made in the same way as the chip basket cradle, with the addition of wheels and the

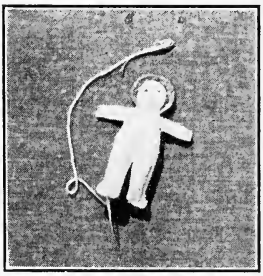
elimination of rockers. Soap boxes cut down, with wooden wheels and handle attached, also make attractive buggies and are durable.



Box Doll Buggy

27. Wooden Doll. — Use a piece of wood 2 inches wide, 6 inches long, and $\frac{1}{4}$ inch thick. On one end paint a face and glue unraveled rope, corn-silk, floss, or cotton for hair. Attach two small sticks for arms, and two for legs, so that they can be moved. Dress.

28. Wrapping-paper Doll. — Cut out a pattern of a doll 12 inches tall, with head, arms, and legs all in one. Lay this pattern on two thicknesses of heavy wrapping paper and cut out. Sew around the edges in colored yarn with overwhip stitch, and stuff with cotton. Draw the face. Dress. Use brown or black yarn in long lengths for hair.



Wrapping-paper Doll

29. Doll Hat. — A boy's cap or girl's hat for a doll. Cut from heavy wrapping paper two circles,

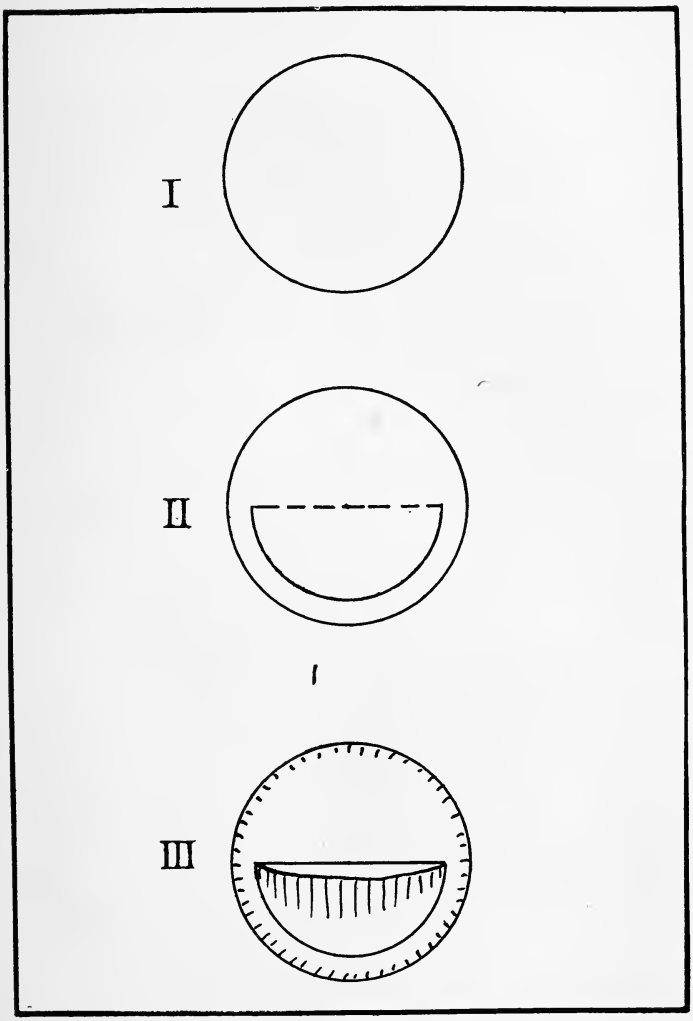
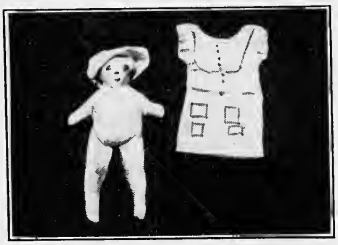


PLATE 7

each 7 inches in diameter. (See Plate 7, Figures I and II.) Fold back the visor which was made by the cut and fold as indicated in Figure II. Place the two circles together and sew all around the circumference with colored yarn. (See Figure III.) With the visor end up, it is a boy's cap. With the visor folded under and decorated, it is a girl's hat.

30. Paper-bag Doll. — Stuff the end of a paper bag and tie to form the head. Paint a face. Open the lower half of the bag out to form a skirt to enable the doll to stand up. Attach arms to the dress.

31. Paper Doll. — Take a piece of heavy-weight paper 20 inches long and 6 inches wide. Fold it lengthwise in thirds, as in Plate 8, Figure I. Fold this 2-inch wide strip in half, as indicated by line *XY* in Figures I and II. Take another piece of paper 8 inches long and 3 inches wide and fold as in Figure III to look like Figure IV. Pass this last strip through Figure II, 3 inches from the folded end, and secure with a paper fastener, as in Figure V. Draw a face, and make cuts above the arms for the neck, as in Figure VI. Make a cut for the legs and glue the loose pieces together, as in Figure VII.



Rag Doll

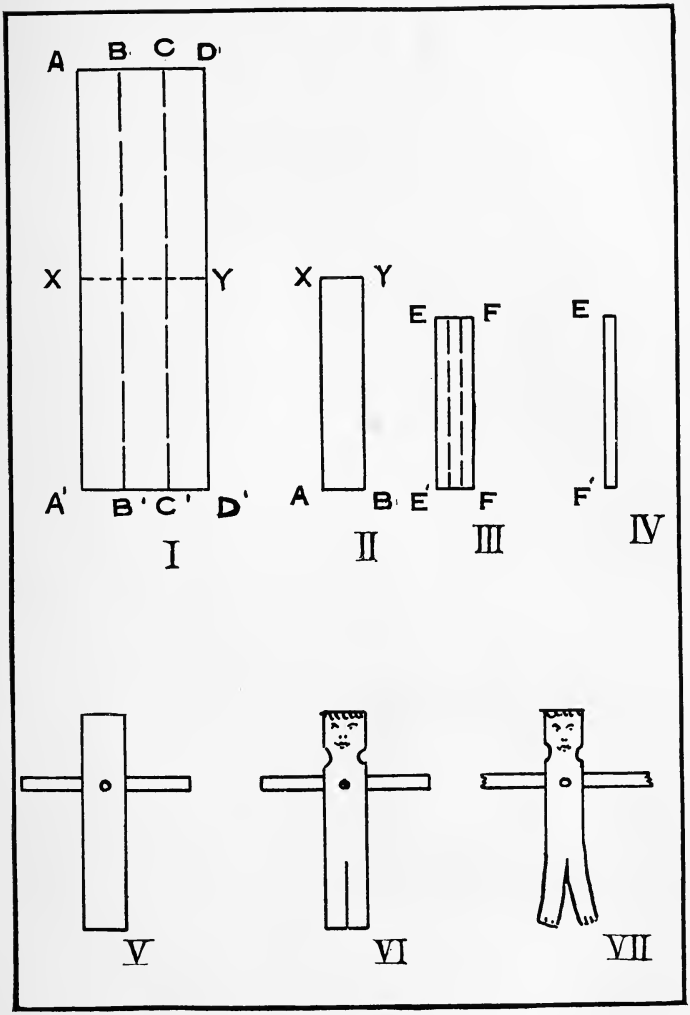


Plate 8

32. Rag Doll. — Cut out a paper pattern as in Model 28, and lay on a piece of doubled cloth or a stocking. Sew around the edge twice and then stuff. Put in the face with paints, yarn, or buttons. Dress the doll.

33. Dyed Easter Eggs. — Have the children bring to school the shells left after mother has broken and used the eggs. Dry them. Use the hot-water dyes in pans with little sticks to stir. The shells are dropped in and dyed both inside and outside. They may then be mounted on cards with glue and a bit of damp cotton placed inside with a seed placed on top. The cotton is kept moist and the seed germinates and grows. The children have a little Easter plant to take home.

DRUM

34. Drum. — Use a can of the type of a 1-pound coffee can or round rolled-oats box. If the latter is used, cut it in half through the center and fasten the lid back on the lower half. Pass a string through two sides of the box or drum so that it can hang about the neck. Paste a band of red paper around

the sides of the box, and decorate this with bands and cord as shown in the picture. Cut the drumsticks out of dowel sticks. Both sides of the drum can be played upon.

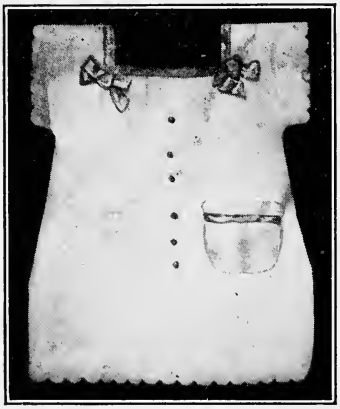
35. Duck Toy. — Cut out a picture of a duck from heavy wrapping paper. Dip this in paraffin and let it dry. Glue this to a large cork. This makes a good floating toy for a tiny baby's bath.

Doll House

36. Doll House. — Nail cracker and soap boxes together, and nail boards to form a pointed roof

over the top. Cut doors and windows in the boxes and build a chimney. Use wall paper or paint the inside, and then furnish. Individual doll houses may be made from hat boxes. The children can take these home.

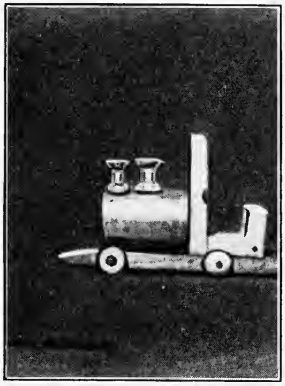
37. Paper Dress. — From a piece of heavy wrapping paper, folded so that the shoulders and neck come at the fold, cut out a child's dress, butterfly pattern. Bind the neck with white lawn glued into place. Decorate the paper to look like dress material; trim with bands, pleats, pockets, sash, rosettes, or buttons made of tissue paper rolled into balls. These dresses have been known to last little girls for two weeks of daily wear. Mothers have expressed joy in the fact that they keep school frocks clean.



Paper Dress

38. Engine. — Use a vegetable can which has been opened with a can opener. Be sure that the lid has not been taken entirely off. Soak the paper off the outside and clean the can. Bend the lid down and point it to form a cowcatcher. Nail the tin can to a flat board with buttonmold wheels at-

tached. Set a spool box up at the back of the can for the cabin. Place empty thread spools on top of the can for a bell and smoke-stack. Tie a string to the front of the engine so that it can be pulled about. The engine may be painted or enameled.



ENGINE

39. Frog Toy. — Cut out of green construction paper, or heavy wrapping paper, a frog, lying flat in extended swimming position. Color the wrapping paper and dip the frog in paraffin. Fold his legs at both joints in a contracted, or ready-to-begin, swimming position. This can be used as a baby's bathtub toy.

40. Fan. — There are numerous ways of making attractive and useful fans. The accordion fold may be used, secured at one end and attached to a handle; the cardboard fan, designed and decorated; and the folded fan that opens on two handles. These are all practical patterns.

41. Fireman's Hat, I. — Use a piece of heavy wrapping paper about 16 inches long and 10 inches wide, doubled and glued together. Cut in a point at one end and round at the other, as in Plate 9, Figure I. Draw a circle the size of the child's headband and

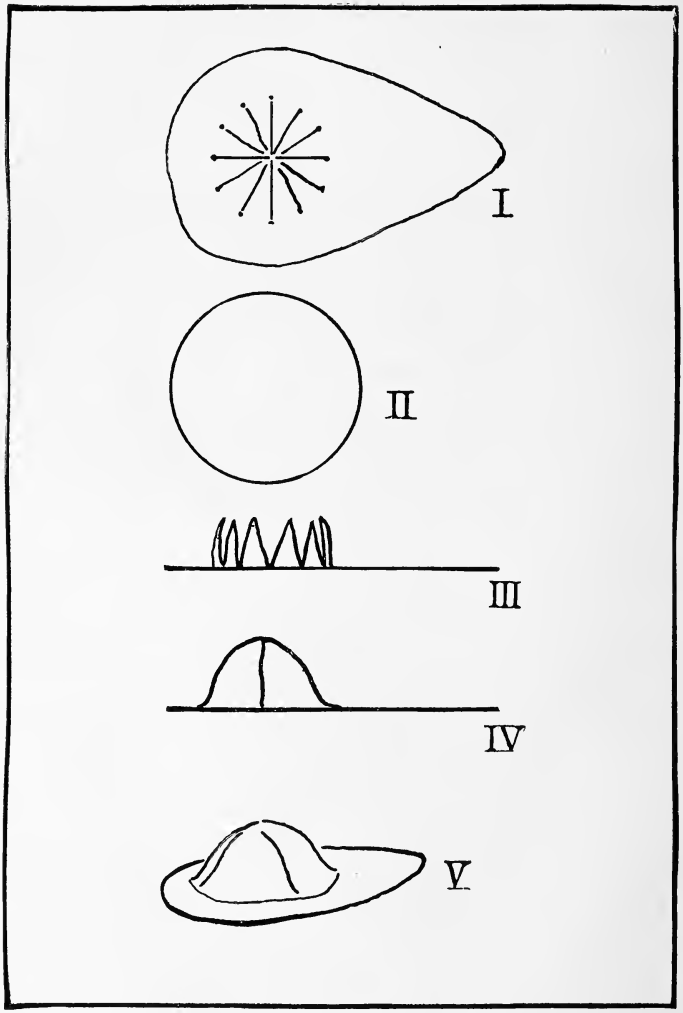
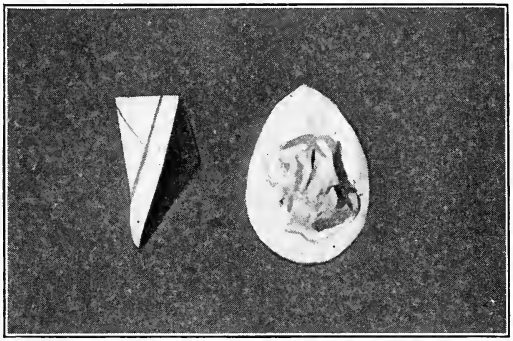


PLATE 9

cut slits, as indicated in Figure I. Slits are folded back, as in Figure III. The crown is then made of lighter weight wrapping paper cut in a circle a little larger than the headband dimension, as in Figure II. This crown is laid in folds and sewed on to the brim so that it goes into a point at the top. (Figures IV and V.)



(1) (2)

1. Fireman's Hat, II. 2. Fireman's Hat, I

42. Fireman's Hat, II. — Use newspaper or wrapping paper. Take a piece the size of an open newspaper sheet, and fold, as in Plate 10, Figure I. Place with the broad side toward you, and the folded edge back. Fold corner *A* to point *C*, and corner *B* to point *C*. Fold upper sheet *F* and *G* back on dotted line *DE*, as in Figure III. Turn over and fold underside *F* and *G* back on dotted line *DE*, as in Figure IV. Holding upper and lower point *C*, draw out and fold down to look like Figure V. Fold upper point *X* on point *Y* (Figure V), as in Figure VI. Point *Z* in Figure VII is the front.

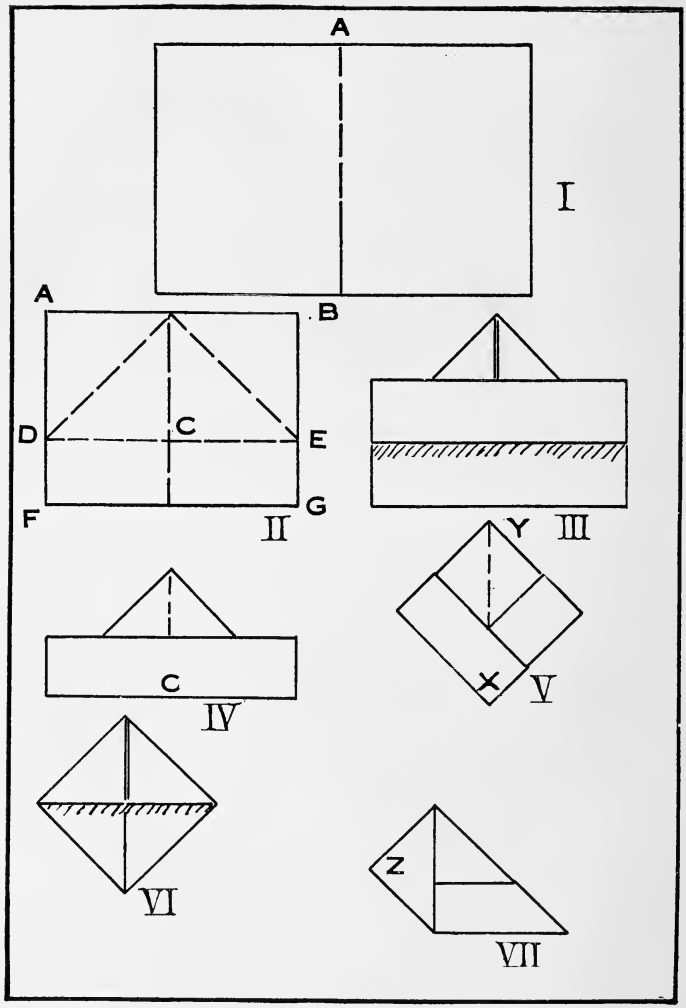


PLATE 10

43. Box Furniture. — Use the wood from soap and cracker boxes that have been taken apart. One

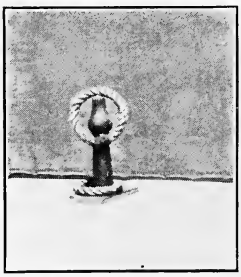
Low Bench with Vises

should have on hand wooden wheels 3 inches and 6 inches in diameter and narrow, light boards cut in 6-inch and 8-inch lengths. Boards of proper size,

Box Furniture

wheels, and legs can be prepared in the school manual training department. It is better if one can have a low manual bench with vises. Hammers, saws, nails, and a brace and bit are needed. Boys and girls alike delight in making airplanes, boats, tables, chairs, beds, doll buggies, cupboards, trunks, etc. This furniture, when made, may be painted or enameled and, if it is desired, may be designed with stencil borders.

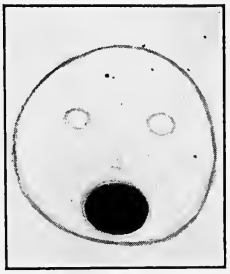
44. Ball-stand Game. — Saw several wooden posts varying in height from 1 foot to 4 feet. Fasten these on standards so that they will stand erect and firm. Attach berry baskets at the top of each post and place a number on each basket, numbering the basket on the shortest post No. I, and so on up. The game is played by standing back at a distance agreed upon and throwing balls into the baskets. A score is made corresponding to the number of the basket the ball falls into.



Ring-toss Game

45. Ring-toss Game. — A 10-inch wooden post is supported on a standard. Rings of heavy rope, 5 inches in diameter, are wound with different colored yarns to make them stiff and attractive. The object of the game is to throw these rings around the post, scoring accordingly.

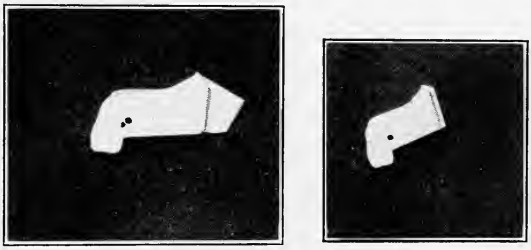
46. Giant Game. — A giant's head with a large mouth is drawn on wrapping paper. The mouth is cut out. The paper is tacked to a wooden frame with enough support to hold it erect. The object of the game is to throw the ball from a base line through the mouth.



GIANT GAME

47. Aviation Goggles. — On a piece of heavy wrapping paper draw goggles, as in Plate 11. Cut out and crease on letters *A* and *B* for wearing.

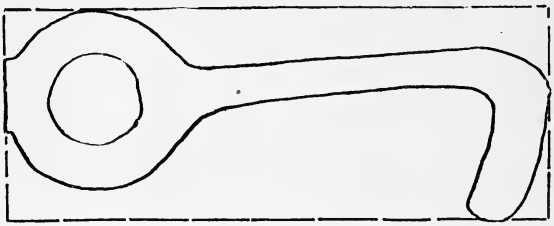
48. Popgun. — Use shoe-box cardboard and trace two guns from a pattern, as in Plate 12. Cut out and fasten them together by gluing cloth along the top edge, as indicated in Figure I. Let dry. Make the



(Open) (Closed)

POPGUN

cracker of light-weight wrapping paper or of newspaper to fit the end of the gun, as indicated in Figure II. Fold line *AB*. Paste edge *AC* along the end



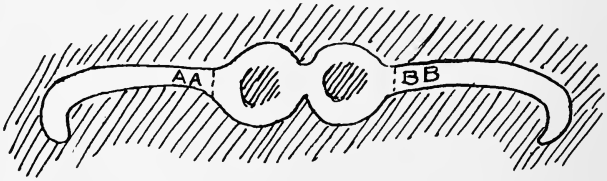


PLATE II

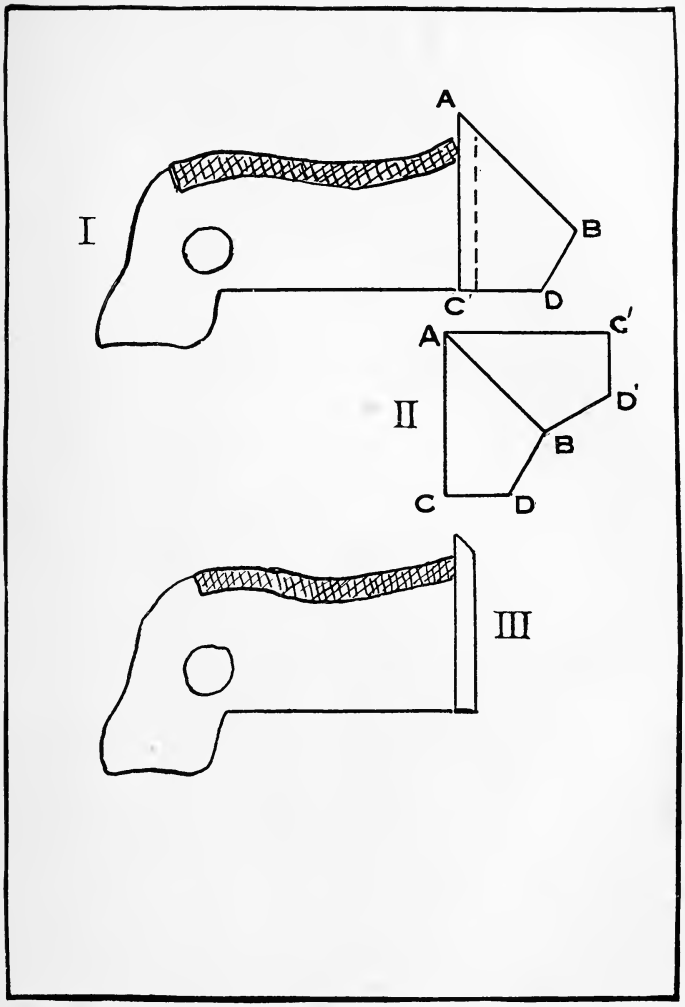
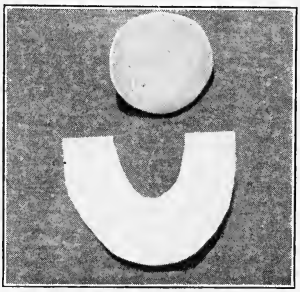


PLATE 12

of the upper gun, then turn over and paste edge AC' along the end of the bottom gun. Fold inside, as in Figure III. Hold firmly and shoot by a forceful downward motion of the hand.

49. Hallowe'en Mask. — Out of heavy lawn or wrapping paper cut a piece large enough to cover the face. Draw the features and paint. Cut out the eyes. Draw the chin into shape with a small piece of adhesive tape. Paste a piece of tape along the top of the mask long enough to encircle the head and tie in the back.

50. Stick Horse. — Use a lath or a narrow stick of bamboo about 2 feet long. Tack a bit of frayed rope or fringed paper to one end for a tail. Make a horse's head out of cardboard and tack it to the opposite end. Attach the reins to the stick just under the head. Color with paints or crayons.

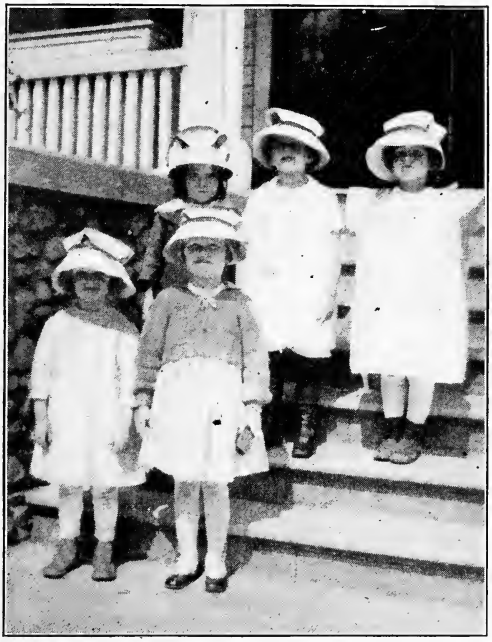


PATTERN FOR HAT

HAT
(Trimmed)

51. Hat. — Fold a piece of wrapping or wall

paper 2 feet 4 inches by 1 foot 6 inches as indicated in Plate 13, Figure I, and cut out the brim, which is 4 inches wide in the back and 5 inches wide in



Children Wearing Paper Hats

the front. (See Figure II.) Close the brim at point *A B* and sew or glue it. Cut out a circular crown of contrasting paper larger than the headband measurement. (See Figure III.) Gather the crown into the brim, as in Figure IV, and tack in place. Trim with bows, rosettes, tissue paper flowers, ribbon, etc.

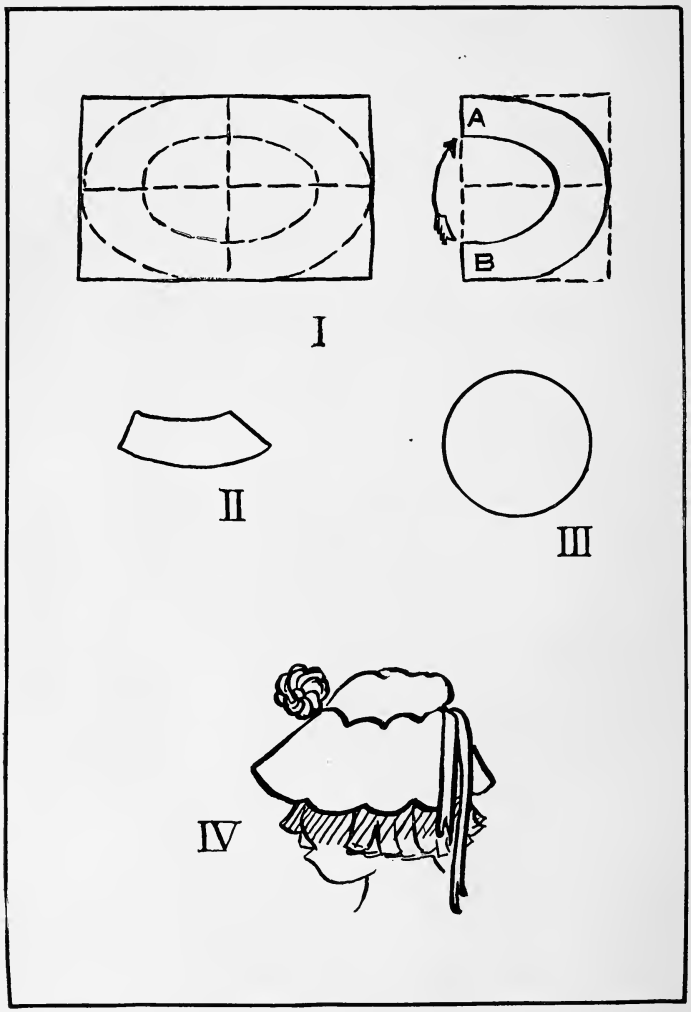


PLATE 13

52. Flower Hat. — From pliable cardboard cut a band large enough to fit the head. Glue the ends together at the back. Place the band on the head. Run a strip from front to back over the head and fasten in place on the band in the front and back. Do the same from side to side. Cover this frame with petals and leaves made from colored tissue or crêpe paper.

53. Horse Reins. — Cut three strands of jute each 3 feet long. Braid or knot to keep the strands together. Tie so as to form a circle, making a division to pass over the head and under the arms. Attach sleigh bells to the front piece.

54. Indian Headband. — Make a wrapping paper band to fit the head. Dip large chicken or turkey feathers into brilliant paint or enamel and let them dry. Sew these feathers around the headband. Decorate these bands with beads and the nail guards used on roofing paper. A fringed tail made from the same wrapping paper may be secured to the band so as to hang down the back. This should be painted in brilliant hues. The headband may be worn with an Indian chief's jacket made like a Camp Fire girl's dress, but shorter.

55. Jumping Rope. — Cut three strands of jute the proper length for a child's jumping rope. Tie at intervals or braid to keep the strands together. Attach large spools to the ends for handles. Col-

ored yarn may be wound around the jute or braided in with it to make the rope attractive.

56. Jumping Jack. — Use four cardboard strips, each 6 inches long and 1 inch wide; two strips 4 inches long and 1 inch wide; and two, 6 inches long and 1 inch wide with the ends shaped into feet. Number these strips 1, 2, 3, 4, 5, 6, 7, 8, as shown in Plate 14. Make a cardboard head, approximately 3 inches in diameter (see Plate 14, Figures I, III, and IV), with a pointed cap. Punch holes at both ends of strips 1 and 2; at the center and both ends of strips 3, 4, 5, and 6; and at the center and top of strips 7 and 8. Put together and secure with paper fasteners as in Figure IV. Paint and shellac. Holding the feet as pinchers, shoot the toy up and down.

JUMPING JACK

57. Jack o' Lantern — Make a hollow pumpkin face and lid out of clay. Poke the eyes, nose, and mouth all the way through. While the clay is soft place a candle in the inside and a wire handle over the top. Place in the sun to dry. When dry, paint it orange color and paste a green stem made from green tissue or crêpe paper on the lid. Light the candle on Hallowe'en.

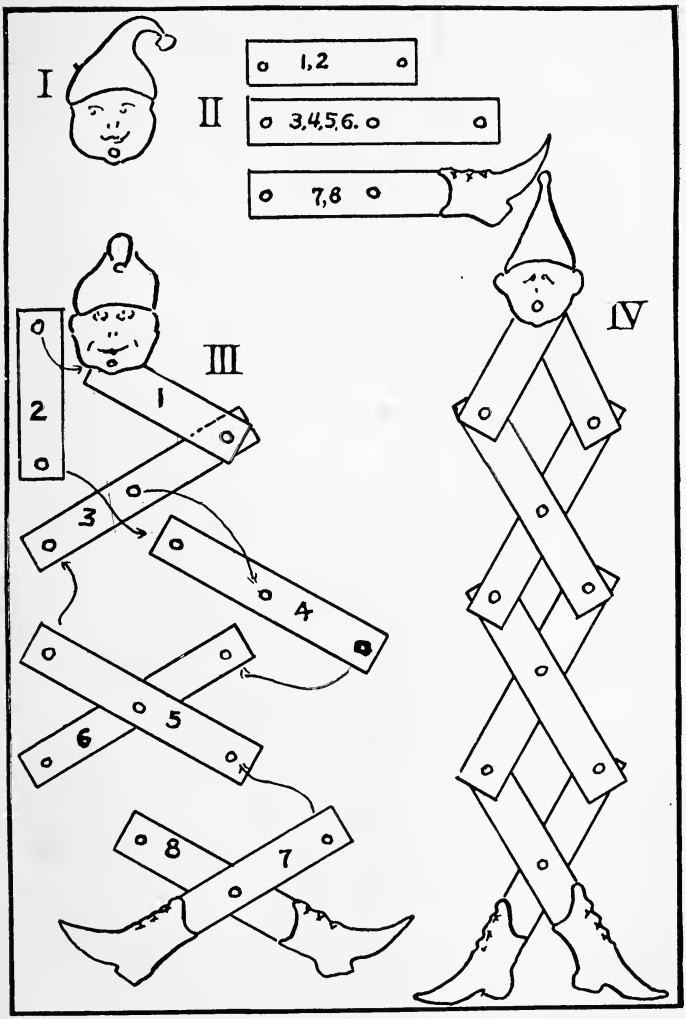


PLATE 14

KITE

58. Kite.—Use shingles split into strips of any length desired. Make the frame cross-shaped. Extend and secure a string from the four ends of the strips. Cover the frame with tissue paper and paste. Next make the bridle of cord fastened at the top end of the vertical strip and the two ends of the horizontal strip. Secure the kite string at the center of the bridle. At the bottom end of the vertical strip fasten a string with cloth knots tied at intervals for the tail. A tailless kite may be made by bowing the horizontal cross strip. To do this, use umbrella staves or a pliable wood. The horizontal strip is held in bow posi-

SHOPPING BAG

tion with a string shorter than the strip and fastened at each end. Construct the rest of the kite as stated above, omitting the tail.

59. Shopping Bag. — Use a large paper bag. Fold under at the top about 1 inch all around. Cut a 1-inch strip of wrapping paper and bind the bag on the inside around the top with this, using colored yarn. Make a handle of wrapping paper or jute and secure it on each side. Decorate the bag with pictures, stencils, or designs.[1]

60. Knitting Bag. — Take a section of newspaper and fold on dotted line *AB*. (See Plate 15, Figure I.) Place on the table with folded side toward you, as in Figure II. Fold the left side over to the right side and crease. Cut in at the center of the left side, as in Figure III, and cut out the handle as indicated. Open as in Figure IV. Sew up the left side, over the top, and down the right side with colored yarn.

61. Knitting Needles. — Procure meat skewers from the butcher shop, and fasten a cork to the blunt end. Many kindergarten children have learned to knit chains and squares with these skewer needles.

62. Marbles. — Roll the marbles out of clay. Place in the sun to dry. When dry, bake in a slow

[1] Formerly in the kindergarten and primary grades, we mounted flat pictures on cards which had no practical use. To-day we use these flat designs and pictures in decorating such things as the shopping bag.

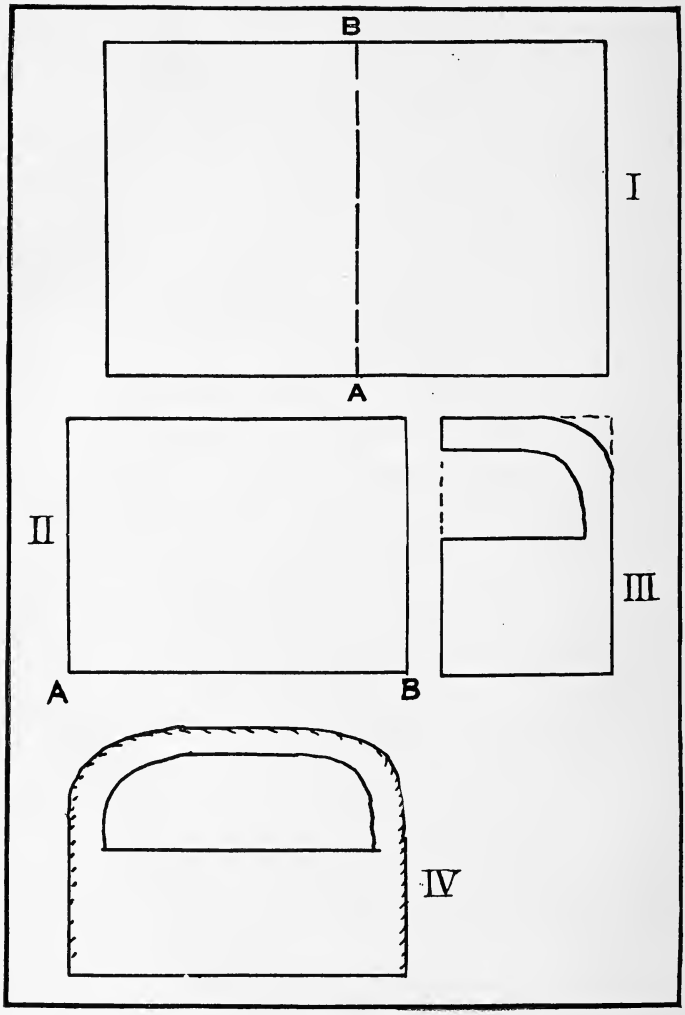


PLATE 15

oven. When cool, paint and shellac. Then have the children make bags out of strong cloth with drawstrings at the top, to hold the marbles.

63. Floor Mat. — Fold five or six newspapers, full sheet size, into each other, so as to make a thick pad. Place clothespins on the open edges to hold the papers in place until sewed. Lay this paper pad on the ground and, with hammer and nail, pound it full of holes. Sew yarn or string in and out of these holes, tying the ends firmly. Then take the clothespins off. Before we had a rug in our kindergarten each child had a mat like this of his own. We always took them with us when we went on picnics to the park.

64. Motion Pictures. — Use wrapping paper strips 6 inches wide and as long as is desired for films. Draw and color funny pictures on this paper and also mount pictures cut from magazines. Attach the ends of the film to two 6-inch spools. Wind the film up on to one of the spools, and unwind it on to the other. Prepare the front of a hat box with a place for the children to peep through. Run the film through at the back on the inside of the hat box. Two children can wind and unwind the film at a time. The children enjoy their own creation and seem never to tire of going to the "show." We need more genuine fun in public school life. This little show affords the children much laughter.

65. Puzzles. — Cut an attractive picture out of a magazine. Mount it on a stiff card. Draw numerous cross lines in all directions over the picture. Cut on these lines, dividing the picture into sections. Make an envelope to contain the parts. The object of the game is to put the parts together to form the complete picture.

66. Parasol. — Cover a paper picnic plate with colored tissue paper cut into a circle 2 inches larger than the plate in diameter. Flute the edges of the tissue paper. Tack a dowel stick to the center of the underside of the plate for the handle.

67. Parrot Toy. — Cut, in a circular cardboard disk 6 inches in diameter, a hole 5 inches in diameter. The 1-inch wide disk thus formed is the parrot's swing. (See Plate 16, Figures I and II.) Cut out a cardboard parrot, making deep notches in the feet, so that he will balance in the swing. Paint and shellac both the swing and parrot. Attach a string to the swing so that it may be hung up. (See Figure III.)

68. Paper Doll Sets. — Cut paper dolls out of a heavy water-color paper. Draw in the features and tint them. Make dresses, aprons, bath robes, coats and sweaters, shoes, furs, hats, etc., out of lightweight wrapping paper with clips to hold on over the shoulders. Color the dresses. Construct a trunk or suitcase for the wardrobe. Our pupils made many

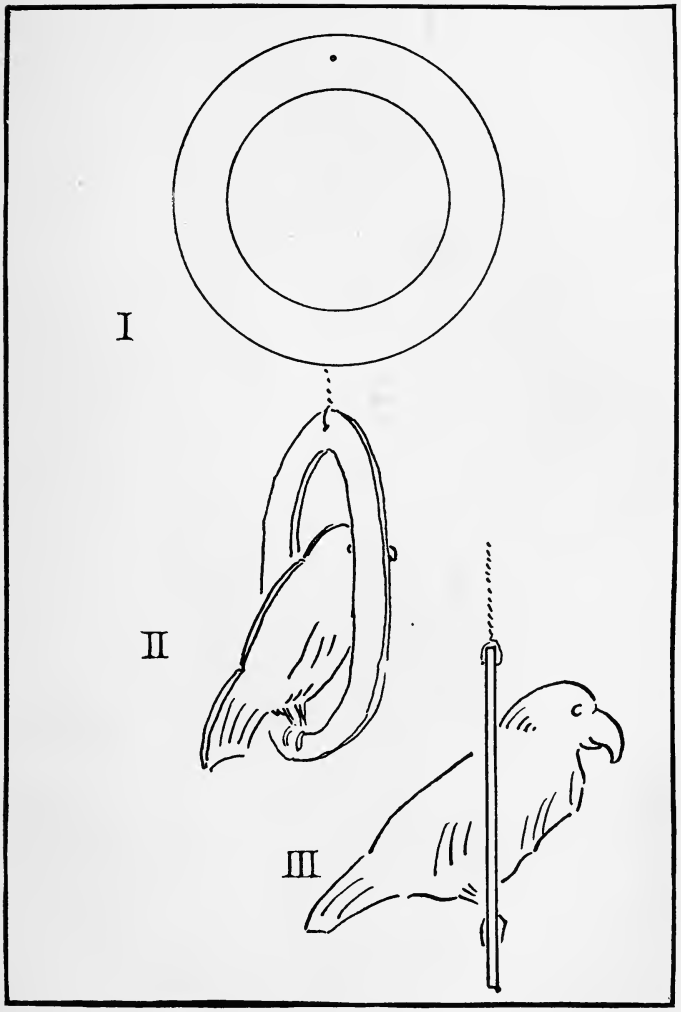


PLATE 16

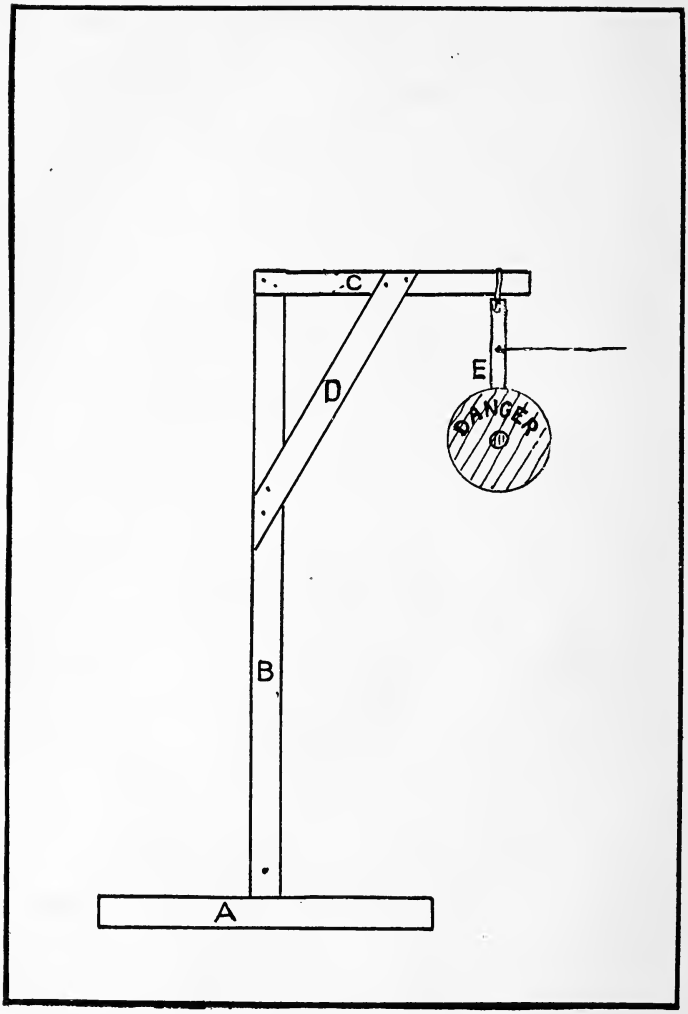


PLATE 17

sets like this at Christmas time for the little ones in the County Hospital.

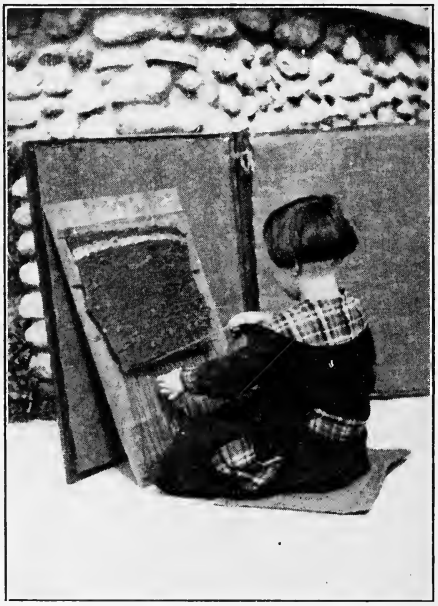
69. Railroad Signal. — Refer to Plate 17. Fasten a wooden post *B* on to a standard *A*. Nail an arm *C* so that it extends out from the top. Strengthen by a crosspiece *D*. From the end of this arm, drop a cardboard strip *E*. This strip *E* is fastened to the arm *C* by a string. With a large paper fastener attach to strip *E* a red cardboard circle, on which the words "Danger" or "Look Out" have been printed. A little bell also may be fastened to *E*, and a string attached which the child can pull to make the bell sound a warning.

70. Rattle. — Put a few beans into a small ribbon roll or some kind of tiny box. Close and seal. Stick the sharp end of a meat skewer into a side of the box and glue it in place. Paint the whole thing in attractive colors or cover with fancy colored paper.

71. Ring. — Use brass curtain rings, finger size. Tie colored beads, or round pearl buttons on the ring for gems. The ring wears a long time, and satisfies the longing to adorn.

72. Rug and Loom. — Make a loom by hammering at regular intervals an equal number of nails along opposite sides of a wooden frame. String cord around these nails back and forth from end to end and tie firmly. Teach the children how to cut rag strips and join them without sewing. This is done by

putting a hole in each end of the two rags to be joined and then fastening the ends together through these holes in slipknot fashion. These rag strips are

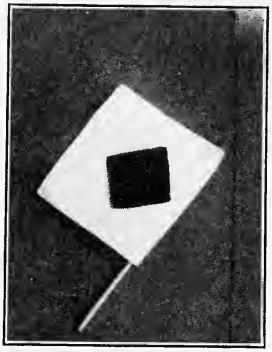


Rug and Loom

woven back and forth on the loom until it is filled. Then the cords are lifted off the nails. Jute may be used for weaving in place of the rag strips.

73. Signal Flag. — Hem the four sides of a piece of white cloth 1 foot square. Stencil a bright crayon symbol in the center. Nail a stick on this and you

have a signal flag. The children may make two flags apiece and practice signaling.



Signal Flag

74. Sewing Basket. — Stain or paint a berry basket. Prepare a cretonne band 4 inches wide and long enough to fit around the top edge of the four sides of the basket. Sew this band to the top of the berry basket on the inside with the right side of the cretonne out. Draw the band up above the sides of the basket and make a hem. Pass a draw string through this hem. The basket also may be lined and provided with a pincushion.

Sewing Basket

75. Spool Doll. — Use two large and eight small spools and four pieces of strong string. Arrange the spools on the table as in Plate 18. Pass string *A* through the right leg spools, and through the body and head spools. Pass string *B* through the two left leg spools, and through the body and head spools. Pass string *C* through the two right arm spools and the head spool. Pass string *D* through the two left arm spools and

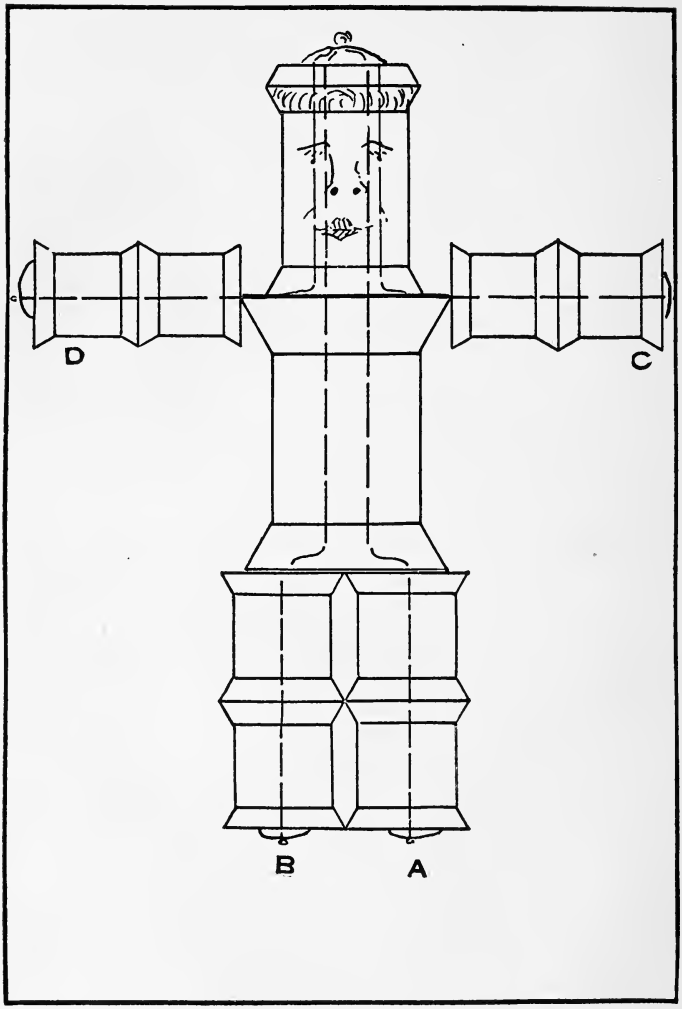


PLATE 18

the head spool. At all four ends place buttons to keep the string from slipping through. At the top join the strings together in a knot. Decorate.

76. Soldier. — Draw on a piece of cardboard a soldier 15 inches high. Cut out. Build a wooden standard 15 inches tall with a supporting base. Tack or glue the soldier to this. During the war children made sailors and Red Cross nurses in this way.

SOLDIER

77. Spectrum Twirler. — Cut out of cardboard two circular cards each three inches in diameter, as in Plate 19, Figure I. Divide each card in half with a line and color the halves in primary colors. Make two holes in each card, as in Figure I. Pass a string through the cards, as in Figure II, and tie. Wind up, as in Figure III, and draw back and forth as it twirls.

78. Japanese Slippers. — Have the child place his shoe on a piece of cardboard and draw around it. (See Plate 20, Figure I.) Using this as a guide, cut out two soles. Cut a toe from heavy wrapping paper a little larger than the toe of the sole, as in Plate 20, Figure II. Put this over the sole and paste on the underside. The inside of the sole may be lined with cotton, and a rosette placed on top. (See Figures III and IV.)

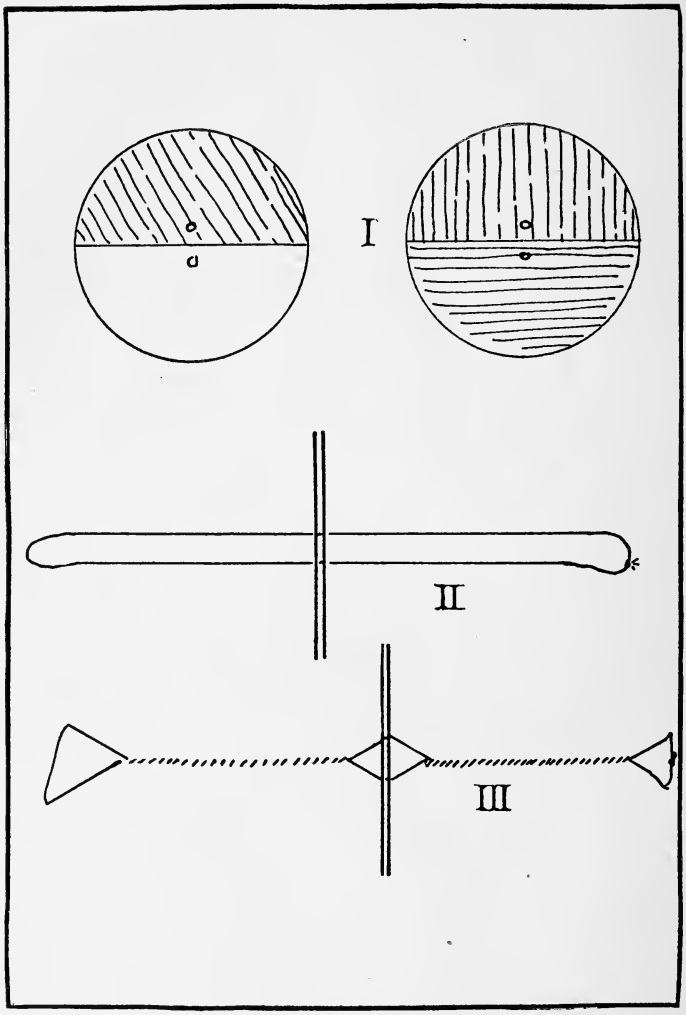


PLATE 19

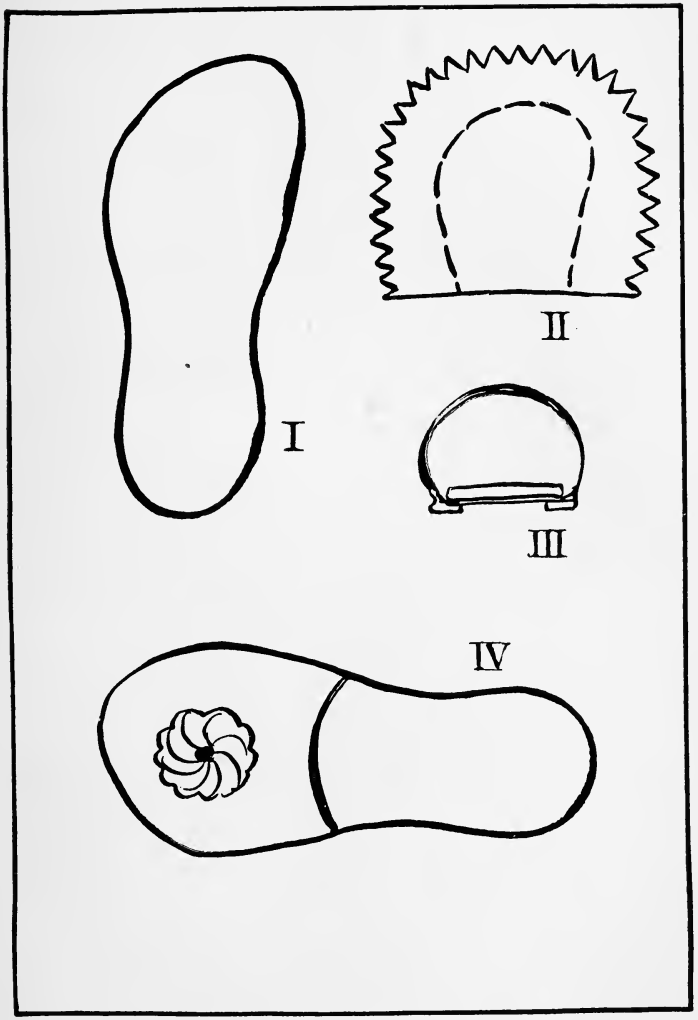


PLATE 20

79. Sunbonnet. — Use a circular piece of cloth 20 inches in diameter, as in Plate 21, Figure I, and a piece of pliable cardboard cut in the form of a half circle 20 inches in diameter, as in Figure II. Paste the cardboard over half of the cloth, as in Figure III. Run a thread around the edge of the other half (see Figure III) following the dotted line, and then draw together. Attach tie-strings as indicated in Figure III. For side and back of sunbonnet, see Figures IV and V.

80. Sailor Tam o' Shanter. — Out of heavy wrapping paper cut a circle 10 inches in diameter, as in Plate 22, Figure I, and make a band the size of the child's head. Cut out teeth in the band, as in Figure II, and close at the back. Bend down the teeth and paste to the circle, as indicated by the dotted line in Figure I. For finished hat, see Figure III.

81. Sailor Hat. — Use a paper bag that is large enough to fit over the child's head. Cut it in half, through the center, as in Plate 23, Figure I, *AB*. Discard the lower open half of the bag. Using the upper half of the bag only, fold up on the outside all around, as indicated in Figure II, *XYZ*. The edge may be bound if so desired.

82. Soldier Hat. — Make this the same as the sailor tam o' shanter, only cut the cardboard circle 8 inches in diameter. (See Plate 24, Figure I.) After

the band (Figure III) has been glued to the circle make a visor, as indicated in Figure II. Glue in place at the front of the band. (See Figure IV.)

83. Soldier's Overseas Hat. — Take a piece of wrapping paper 19 inches by 15 inches, and paint a drab color. Fold the 15-inch edges together, as indicated in Plate 25, Figure I, line *DC*. Cut in four inches on the folded line *DC* at points *D* and *C* to points *Q* and *R* as shown in Figure II. Make a crease 1 inch from, parallel with, and on both sides of, the center crease. (See Figure II, line *XY*.) Place the hat on the table, as shown in Figure III, with the center crease folded in and the other two creases folded up. Fold inside the two corners made by cutting line *C'Q* and *RD'*, as in Figure IV. Sides *A* and *B* are folded in and fastened with a large paper fastener, after laying the facing back, as in Figure IV. (See finished hat below Figures III and IV.)

Soldier's Overseas Hat

84. Spurs. — Use a light-weight pliable card (such as laundrymen place in men's shirts). Cut out an anklet to fit the child's ankle. Make a circle of stiffer cardboard 2 inches in diameter. Cut teeth around the circumference of this circle. Punch holes in both ends of the anklet and in the center of the circle. Put on, and fasten with a paper fastener through the three holes.

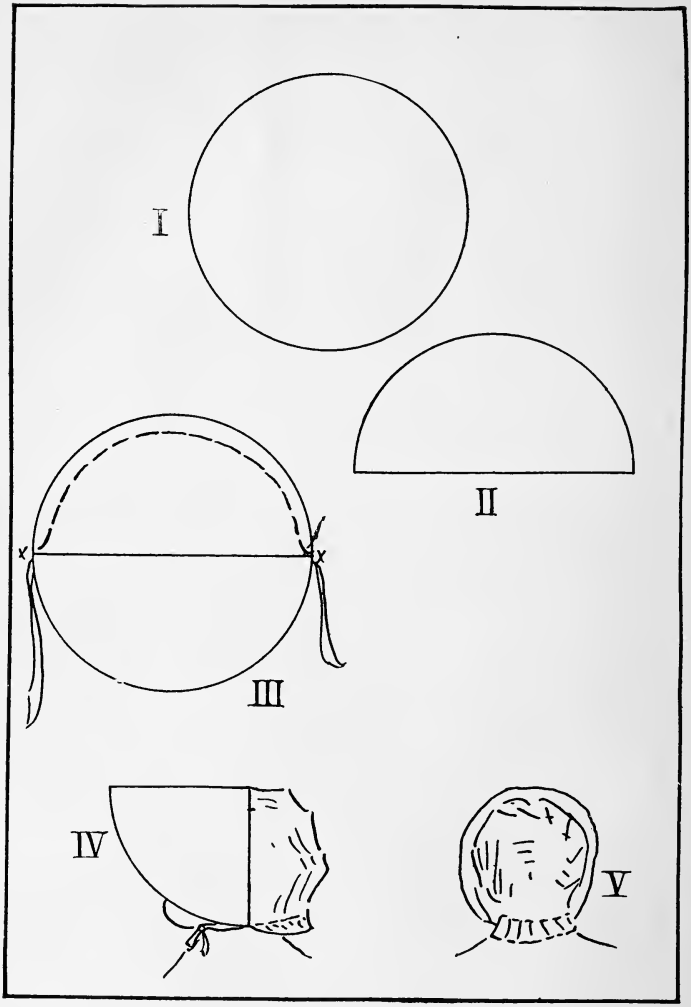


PLATE 21

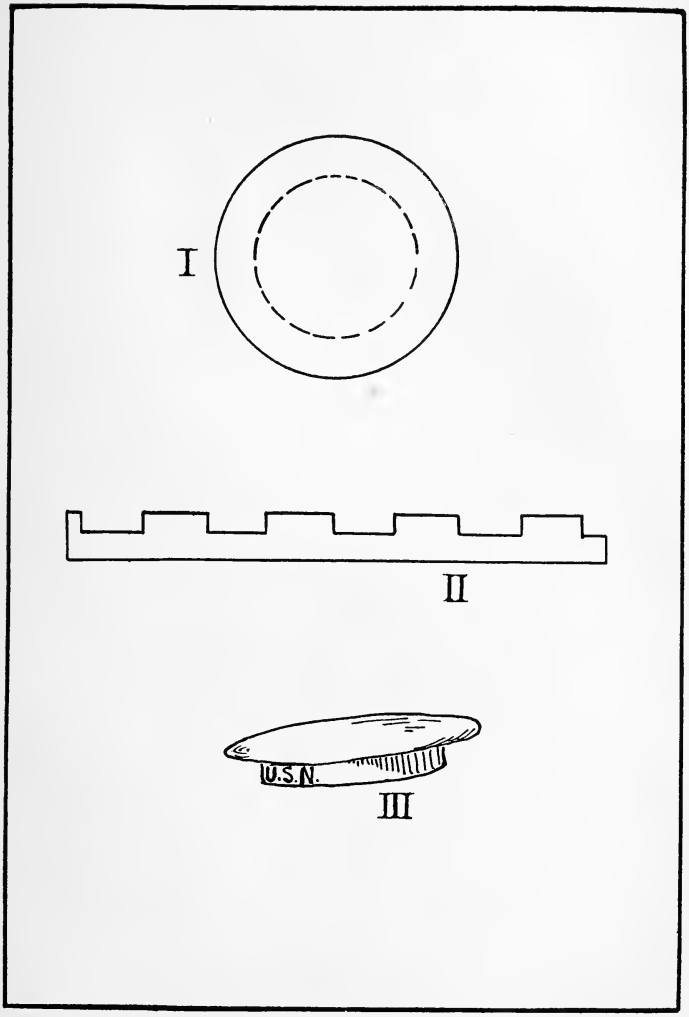


PLATE 22

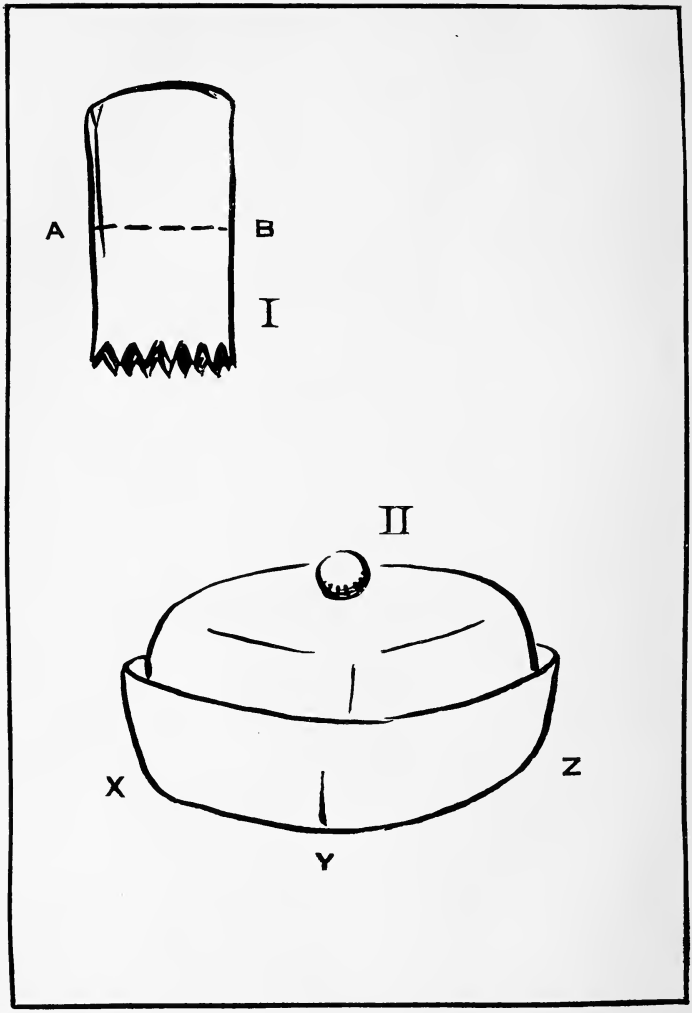


PLATE 23

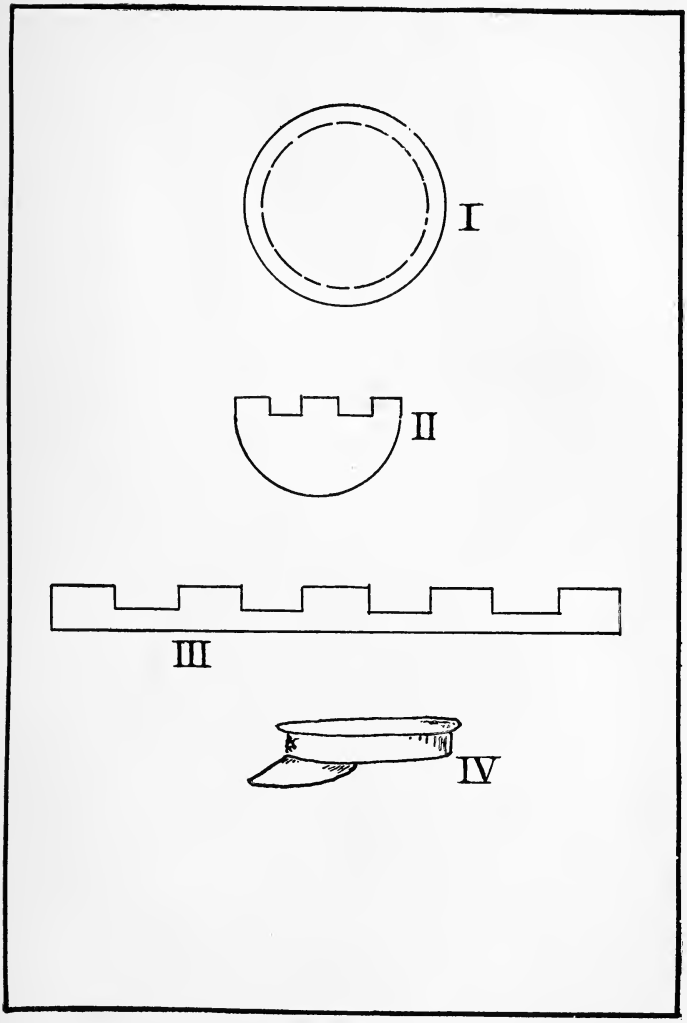


PLATE 24

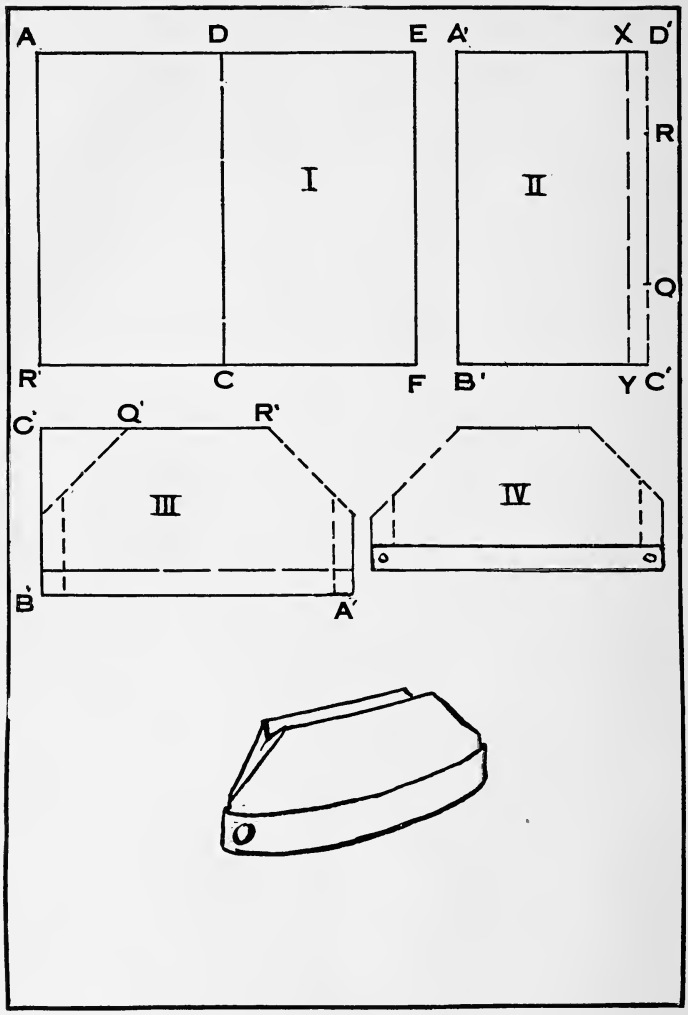
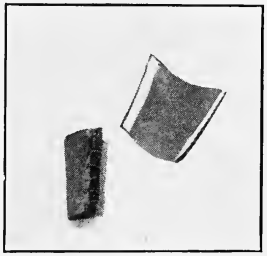


PLATE 25

85. Sling Shot. — Cut off a forked branch, trim off the leaves, and leave two 4-inch prongs. Attach a broad rubber band from the ends of the two prongs. Paper wads may be shot with this sling at a target erected for practice.

86. Soldier's Leggings. — Using Plate 26, Figure I, as a pattern, cut out of heavy wrapping paper two leggings of a size to fit a child's leg. Along sides *A* and *B* of each legging paste a strip of lawn 1 inch wide. Place under a weight to dry. When dry, punch an equal number of holes along these strips, as in Figure I. Put the leggings on, lace up, and tie. If laces are not available, strong cord may be used.



Soldier's Leggings

87. Train. — From a piece of heavy construction paper cut out a train on the fold, as in Plate 27, Figure I. At the bottom and through the inside of the folded train, place a strip of wood, about 1 inch high and 2 inches wide, and as long as the train. Tack this in place. At the front of the stick or block drive a staple to which a string can be tied. This toy may then be pulled about the floor or run on tracks. Windows may be cut out and paper dolls placed inside in the attitude of looking out. For completed train see Figure II.

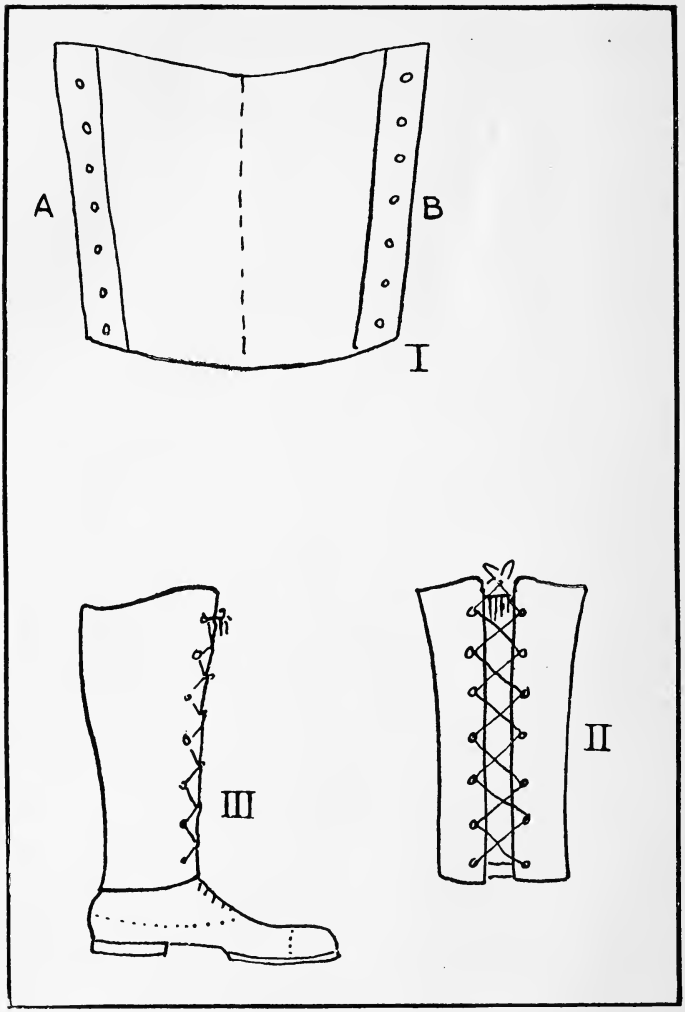


PLATE 26

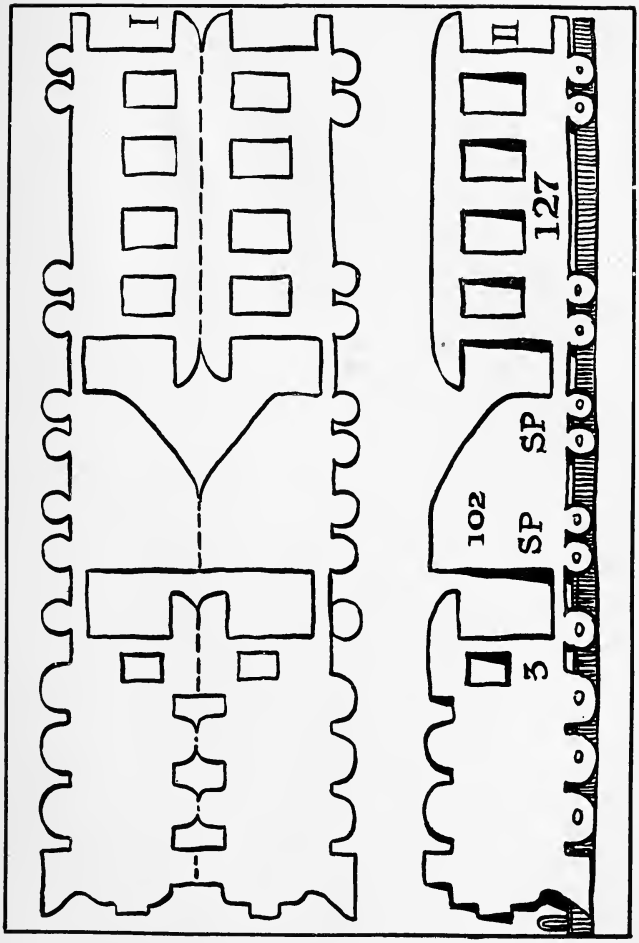


PLATE 27

88. Tree. — Use a piece of paper 9 inches by 12 inches or of equal proportion. Fold as in Plate 28, Figure I. Place on the table, as in Figure II, with open edges on the left side. Tear or cut as indicated in Figure II. Paste the open edges closed and stand on end. Crayon or paint. For use in block villages, sand cities, etc.

89. Top. — Use a milk-bottle top or circle of heavy cardboard 2 inches in diameter. Color in brilliant design on both sides. Cut the black end off a burnt match, stick the match through the center of the card and glue in place.

90. Indian Tom-Tom. — Use a cottage cheese carton. Cut the lid as in Plate 29, Figure I. Place the lid back on the box. (See Figure III.) Pass a cord tightly across the center of the lid, through holes near the top of each side, and down until it can be tied under the bottom, as shown by Figures II and III. Securely tie a match or small pencil to this cord at the center of the lid, so that one half of the stick is on the lid and one half over the opening. (See Figure I.) By tapping on the free end of the stick one gets the tom-tom thump and hollow vibration.

91. Wheelbarrow. — Take a soap or cracker box; remove one short end, as in Plate 30, Figure I. Lay two laths under the box, as in Figure II, and nail in place. Secure a 6-inch wooden wheel where the

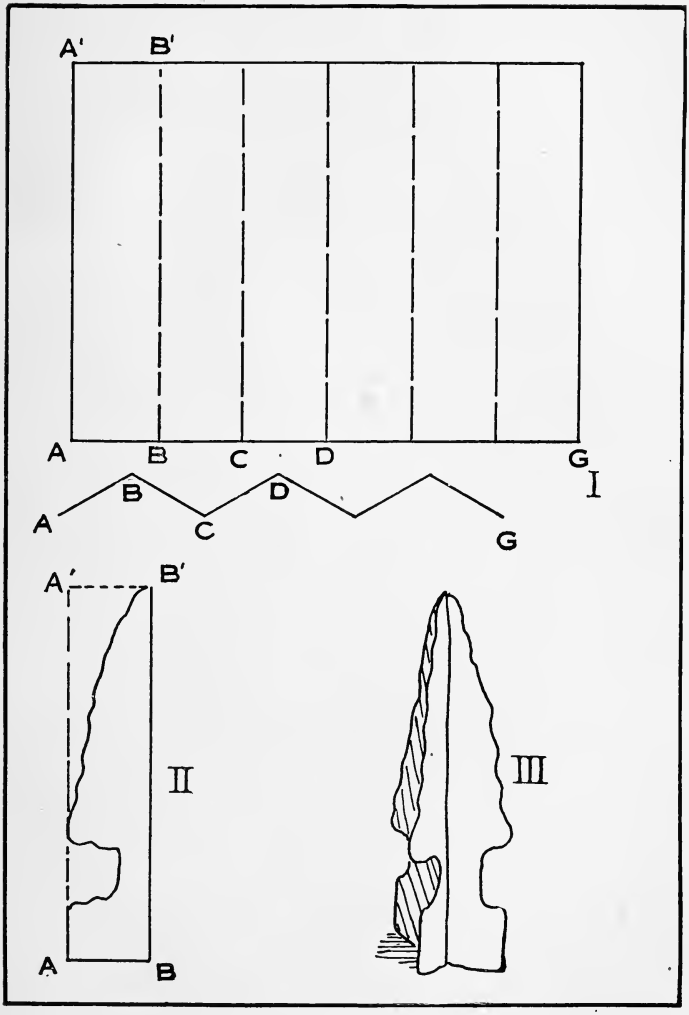


PLATE 28

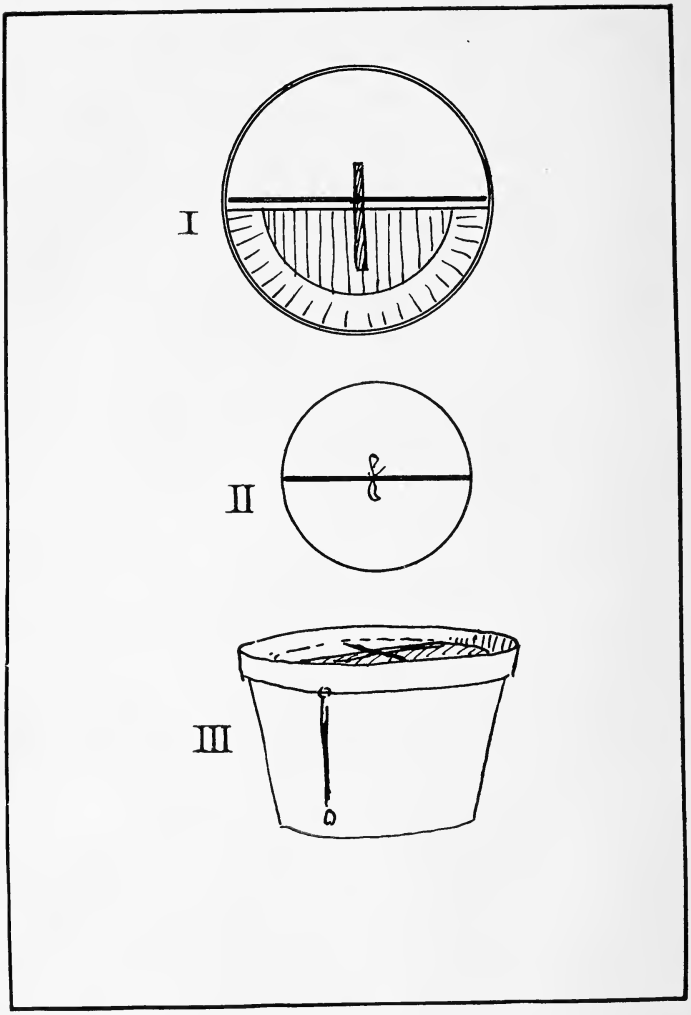
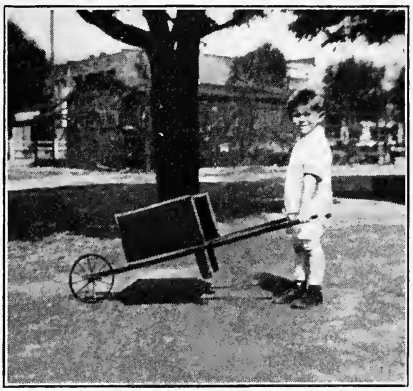


PLATE 29

laths come together in front at point Z. At points X and Y nail legs 6 inches long. Paint and decorate.

92. Wrist Watch. — Use a piece of heavy wrapping paper $\frac{1}{2}$ inch wide and as long as the child's wrist measure, and a cardboard circle $1\frac{1}{2}$ inches in diameter with a watch face drawn on it. Put a hole in both ends of the bracelet and in the center of the watch face. Put a large brass paper fastener through the holes in the bracelet ends and watch face with the ends bent up to use as watch hands.



WHEELBARROW

93. Basket Wagon. — Use a stick 3 inches long and suitable for a toy wagon tongue or shaft. To one end of the stick nail the center of a crosspiece 8 inches long and about 2 inches wide and 1 inch thick. At both ends of this 8-inch crosspiece nail wooden wheels 3 inches in diameter. Nail a large tomato basket to the crosspiece, so that the crosspiece runs across the middle of the basket's bottom. Paint or enamel.

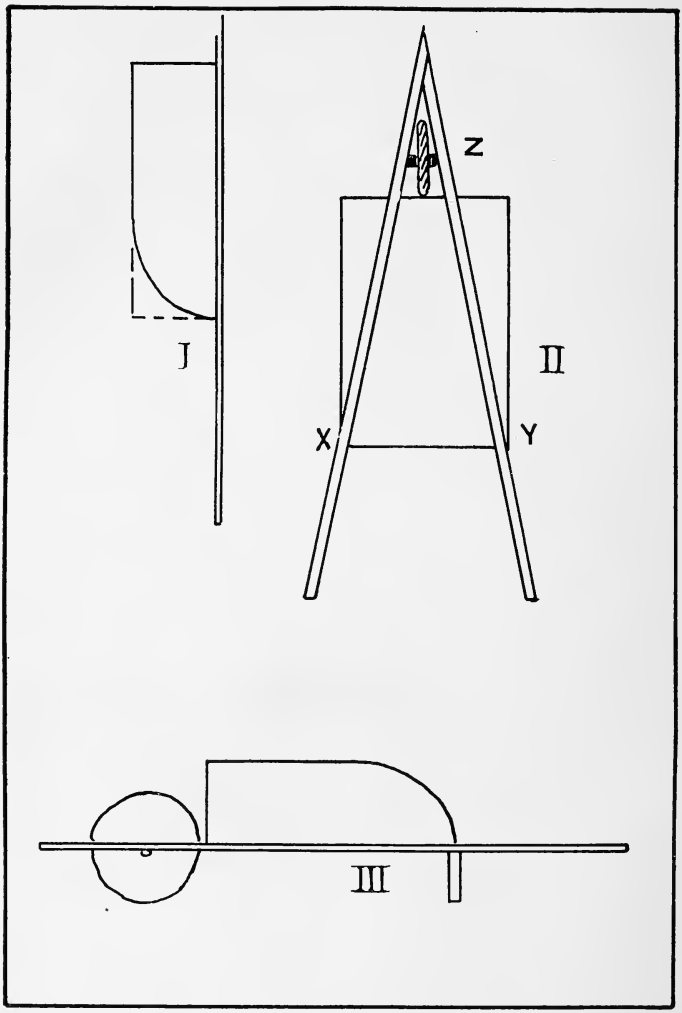


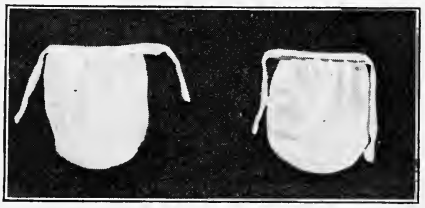
PLATE 30

CHAPTER IV

Handwork of Utility Value

Children's handwork may be divided into toys which they make to play with, and articles which serve purposes of utility. This chapter is devoted to the description of utilitarian articles which I have seen kindergarten-primary children work out.

94. Constructed Apron. — Out of heavy wrapping paper or oilcloth, cut an apron, as in Plate 31. Bind the edges with cloth glued to the paper or with a band of the same paper overwhipped with colored yarn. Make the apron large enough for the child to wear comfortably. A large pocket may be put in the front of the apron. Made shorter and with many pockets, it makes a practical carpenter's apron with places for nails.



Cloth Apron

95. Cloth Apron. — Make a band long enough to encircle the child's waist and tie in a bow at the back. Cut out a little square or round piece of cloth large enough to cover the front of the

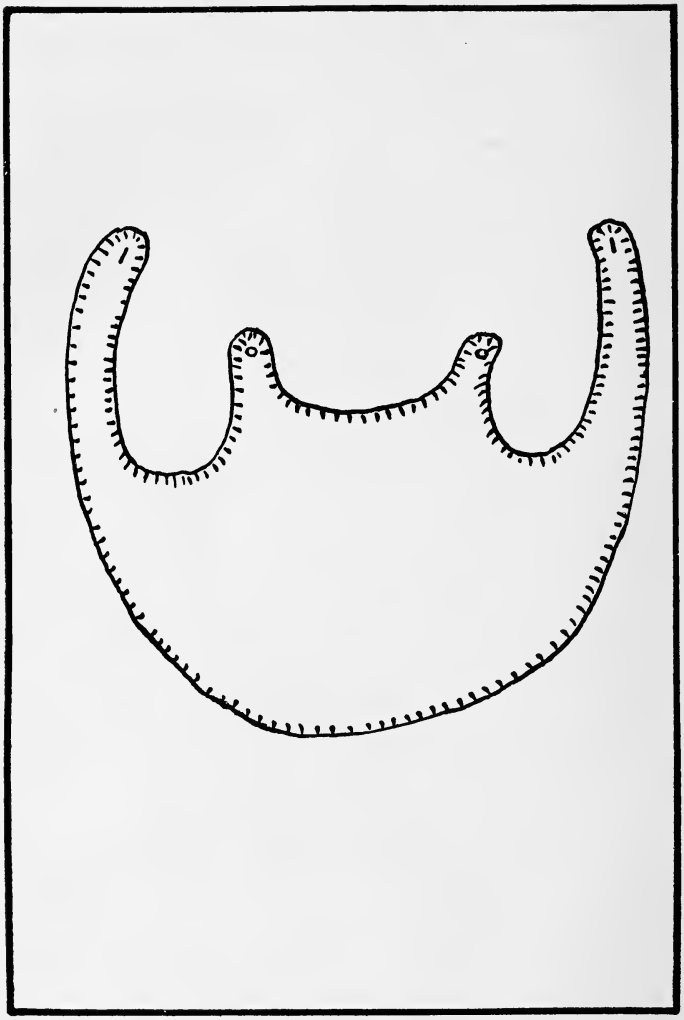


PLATE 31

child's skirt. Hem this apron on three sides and gather the unhemmed side. Insert the gathered side of the apron at the center of the band, and sew firmly. This little apron may be decorated with a stencil design or embroidered in colored yarns.

Child Wearing Cloth Apron

96. Crayon Beads. — Melt up old crayons that have grown too small for use. When cool but still soft enough to work, mold in bead shape and put holes through. Then allow them to dry. They are also attractive molded into various shaped pendants to be worn on ribbon ends.

97. Paper Beads. — Use the colored or glazed pictures from magazines. Cut up into triangular shapes 4 or 5 inches long, 1 inch wide at one end, and running to a point at the other end. Beginning with the wide end, roll on to a pencil or skewer and glue down. Slip the stick out of the bead, and

let it dry. By this method the combination of color is rolled on the outside. The bead is then shellacked and strung when dry.

98. Clay Beads. — Model clay beads of different shapes and sizes. Punch holes through the beads with a nail or stick while the clay is still soft. Put away to dry. When dry, paint in colors, shellac, and string on heavy cord.

99. Bulb Bowl. — Out of clay, model a bulb or flower bowl and frog. Allow the clay to dry. Paint or enamel, and shellac the surface. Brush the inside with a thin coat of paraffin. The bowl is filled with water and the clay frog, with holes in his back in which the flowers are placed, holds the flowers erect.

100. Clay Bird. — Model a bird out of clay. Be sure that the weight of the tail balances that of the head and neck. Put deep grooves in the feet so that they will fit over the side of a flower bowl. Paint and shellac the bird. Place on the edge of a flower or bulb bowl.

101. Book Brace. — This article involves very simple hammering. Use a piece of wood 8 or 10 inches long and 4 inches wide for the bottom of the brace. For the sides, two pieces 4 inches square. Nail the sides to the short ends of the bottom, then stain or enamel.

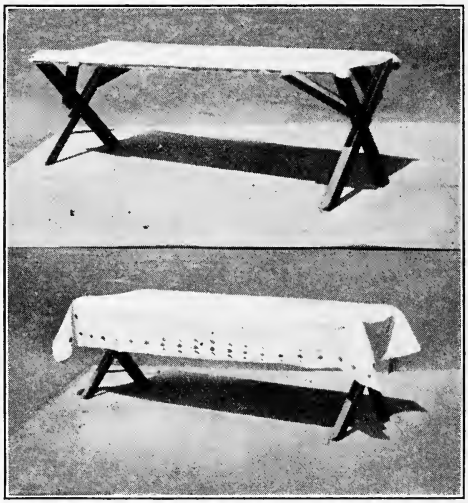
102. Bird Stick. — Out of cardboard or heavy wrapping paper make a bird or butterfly measuring

4 or 5 inches from wing to wing. Color and nail or sew to a dowel stick to stake up a plant in a garden bed, or tie to a small twig to place in a vase among flowers.

103. Hair Bow. — One day a little girl in the sixth grade of our school called me to look at her hair ribbon. I admired it; but not until I was told, did I realize that it was made of strips of pale pink and blue tissue paper pasted together and gilded at the pasted edges. It was made into a double bow and put in a ribbon clasp. It was Friday, and my young friend had worn it since Tuesday, but could easily wear it for another week. Her classmates were so delighted over the original idea that they persuaded her to make one for each of them. Now it is quite the fad in the school. Our kindergarten-primary children have found that tissue paper hair bows are quite as easy to make as any of our other projects in *Purposeful Handwork*, and so are continually making very attractive bows which they wear instead of ribbon. The children are learning to make color selections that harmonize with the dresses they wear. This project makes the price of an attractive hair bow 2 cents in place of a dollar or more.

104. Cot. — Take four boards, each 2 by 2 inches by 2 feet, and bore a hole in the center of each. Cross two of these boards so that the holes come directly under each other, and screw together with a long

bolt. Do the same with the other two boards. These form the legs. (See Plate 32, Figure I.) Next take two boards each 4 feet long and of the same thickness and width as those used for legs, and nail to the upper ends of the legs for sides,



Cot

Top: without cover
Bottom: with cover

as in Figure II. Cover with burlap or canvas, nailing it down at the corners and along the sides. (See Figure III.) Children can make small folding cots like this model for their dolls. They can also make cardboard cots, using paper fasteners for bolts, to use with paper dolls.

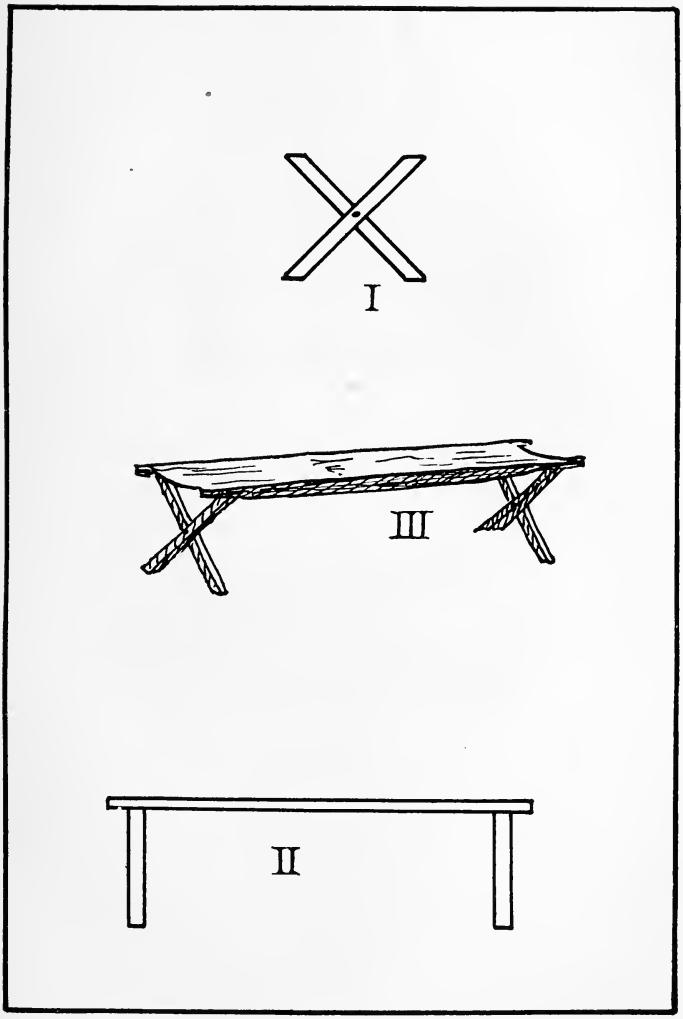


PLATE 32

105. Candlestick and Shade. — Out of clay, model a candlestick, as in Plate 33, Figure I. While the clay is still soft, insert the sticks which hold up the shade; also make the hole for the candle to stand in.

CANDLESTICK AND SHADE

Out of heavy wrapping paper and tissue paper, make the shade as indicated in Figure II. The two edges *A* and *B* are then pasted together and the shade placed on stick supports. The light shading indicates where the tissue paper is put in. (See Figure III.) The shade may be lined with asbestos to insure safety when in use. This makes both an attractive and useful project.

106. Candle. — Make a clay pillar mold 3 inches high and 1 inch wide. With a finger or pencil, make a hole lengthwise through the center of the pillar and $\frac{1}{2}$ inch from the bottom. Hang a string in this hole, and then fill the hole with melted paraffin. When the wax is hard and set, shave the clay off. The clay is neither harmed nor dirtied by this process and so may be used again. The candle is then placed in the stick and may be burned by lighting the top of the string which serves as a wick. (See Plate 33.)

107. Cup. — Take a square piece of paper and fold it diagonally, as in Plate 34, Figure I. Place

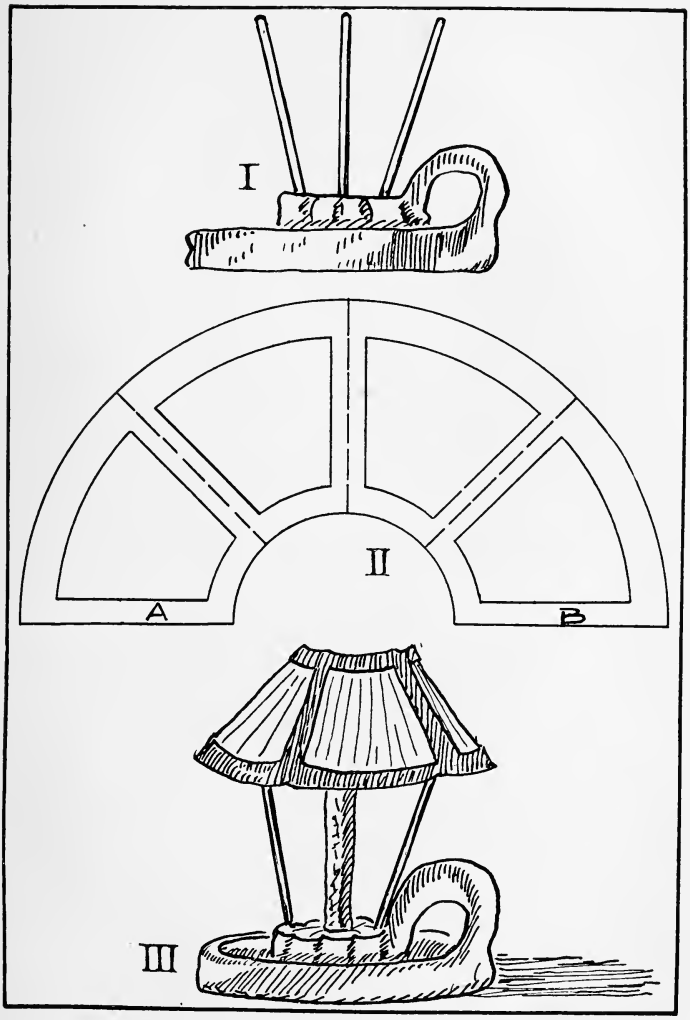


PLATE 33

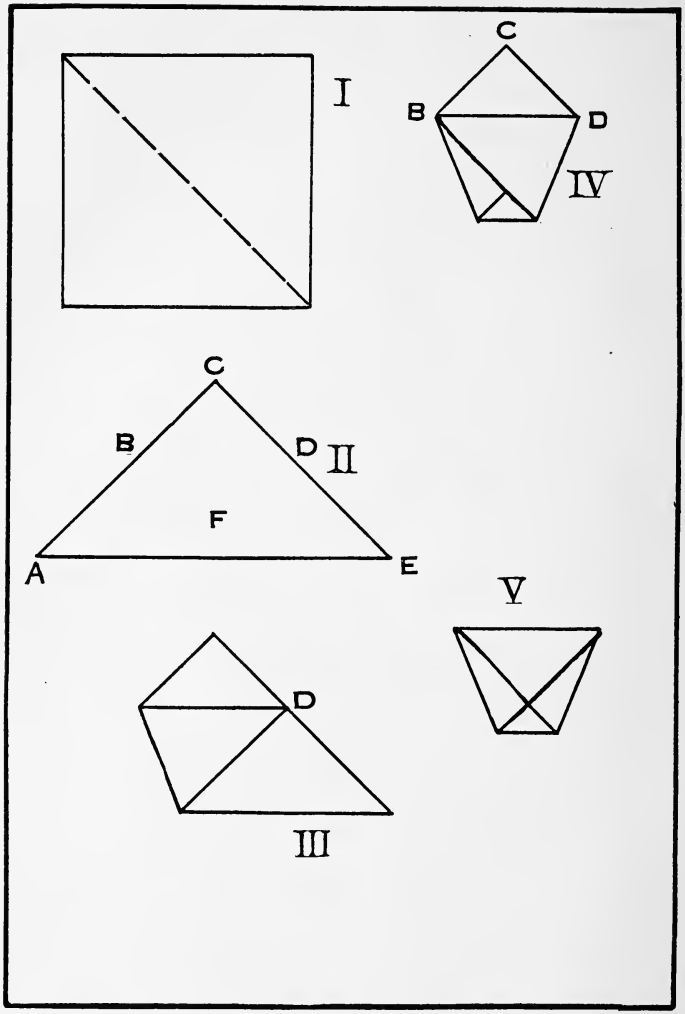


PLATE 34

the folded side toward you. (See Figure II.) Place point *A* on point *D*, as in Figure III, and fold. Place point *E* on point *B* and fold, as in Figure IV. Fold one half of point *C* forward on point *F* and the other half of point C backward in the same way. (See Figure V.) The cup then may be decorated.

108. Crumb Tray and Scraper. — From a piece of card or heavy construction paper measure off, as in Plate 35, Figure I. Cut on the dotted lines, fold on the dash lines. Glue the two 2-inch corners in box shape, as in Figure II. The crumb scraper shown in Figure III is cut from the same kind of paper. Decorate both the tray and scraper with stencil design and color. Then shellac to make stiff and glossy.

109. Coat Hanger. — Take a section of newspaper and roll up into a firm hard roll. Tie both ends with cord to hold the paper in place. In the center, tie a piece of jute or cord leaving a loop to hang over a hook. If one chooses, after the newspaper roll is made, colored tissue or crêpe paper may be used to cover the newspaper and make a daintier project.

110. Compass. — Use a piece of cardboard 8 inches long and 1 inch wide. Mark off inches along one side. At one end make a hole large enough for the point of a pencil to pass through; at the other end place a common pin. The distance from the pin to the pencil point tells the size of the radius. The

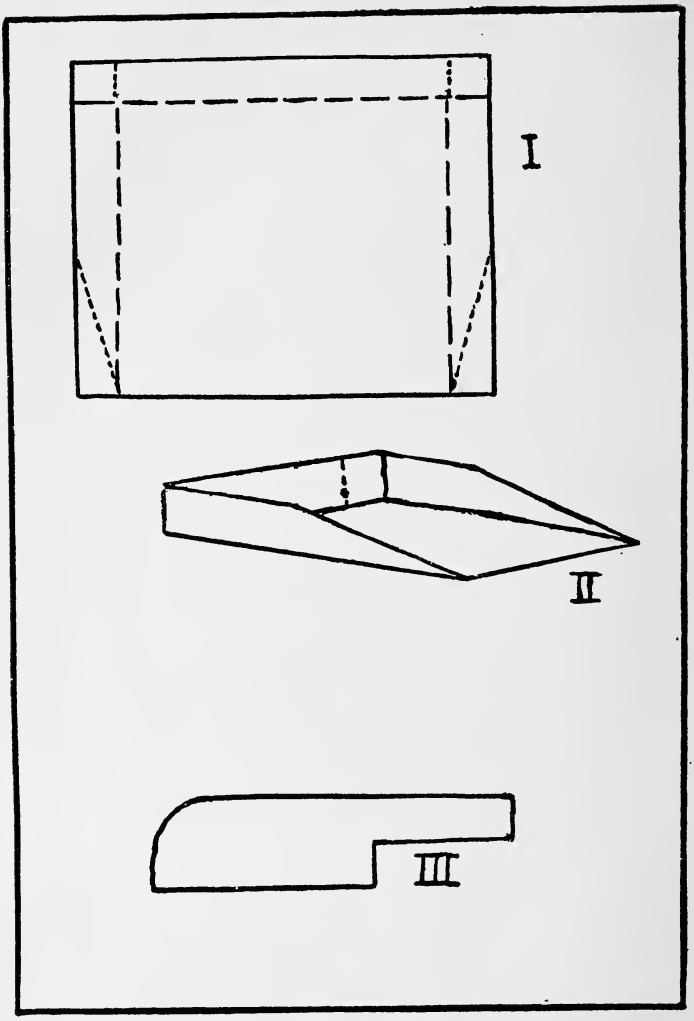


PLATE 35

radius dimension is made longer or shorter by moving the pin.

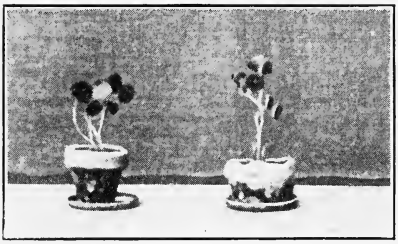
111. Churn. — Use a pint or quart glass fruit jar. Either make a hole in the center of the tin lid, or make a wooden lid to fit the top of the jar with a hole in its center. The hole should be large enough to permit the dasher to work through it easily. Use a dowel stick for the dasher with a small wooden paddle nailed on at the bottom. Place the dasher through the hole in the top of the jar, and then screw the top down.

CHURN

112. Doilies. — Doilies may be made from cloth, oilcloth, or heavy wrapping paper cut in circles and decorated with colored yarns or stencil patterns. Burlap doilies are easily fringed.

113. Darning Egg. — Children may model a darning egg out of clay, which, when dry, they can paint and shellac. They then bring stockings from home and use the egg under the hole that is to be mended. The principles of weaving can be taught in the darning lesson.

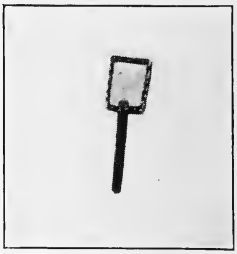
114. Flower Pot and Plant. — Out of clay model a flower pot 4 inches high, and 3 inches in diameter across the top, with a little hole in the bottom for drainage. Decorate the pot with enamels when it is hard and dry. Then shellac the surface and paint



Flower Pot and Plant

the inside with paraffin. Fill with earth and plant a seed. The children care for the young plant as it grows and finally take it home.

115. Fly Swatter. — Bind the edges of a 3-inch square piece of wire window screening with black oilcloth, or heavy cloth. Nail this to a stick 6 inches long for a handle. Decorate or stain the handle.



Fly Swatter

116. Handkerchief. — Hem the four sides of a piece of stiff lawn, of handkerchief size. Colored or white lawn may be used. Trace a design and follow it with a running stitch, or decorate in crayons or stencils. The children may print initials in one corner with the printing press and may embroider these with colored yarn which harmonizes with the color of the lawn used.

117. Hearth Broom. — Select a bamboo stick 2 feet long, and tie a raffia loop at one end by which it may be hung up. At the bottom tie a piece of palm bark, as in Plate 36, Figure I. Turn back over the end and tie as in Figure II. At both

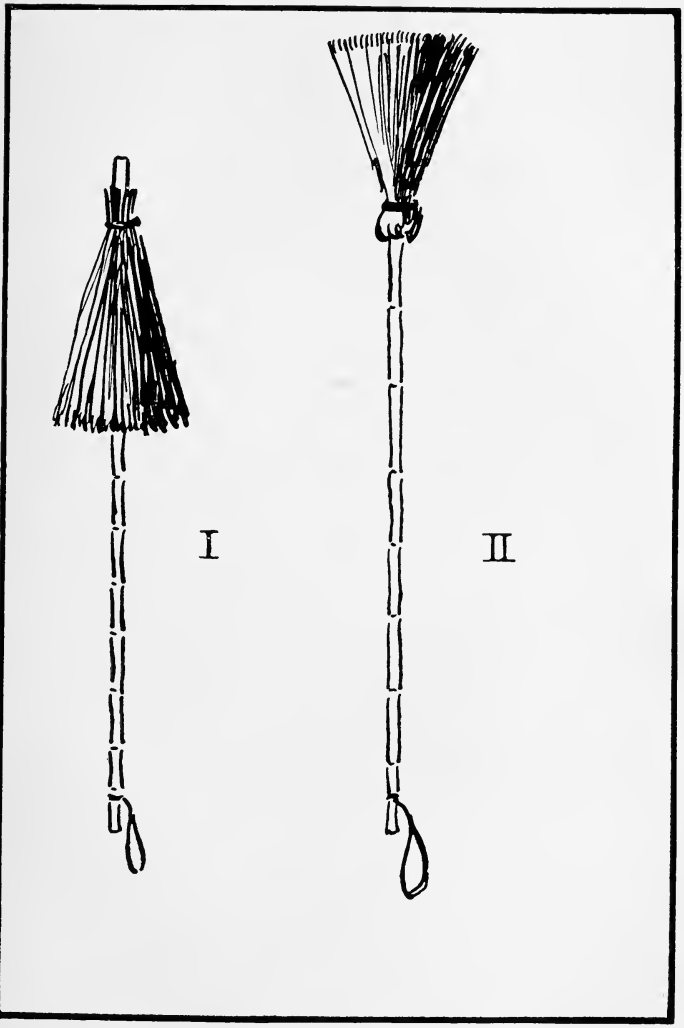
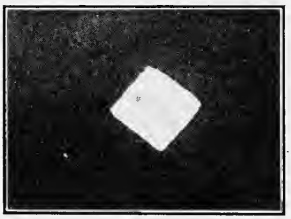


PLATE 36

places the bark is tied with raffia. Clip to shape evenly.

118. Luncheon Set. — Cut doilies in different sizes out of washable oilcloth. Cut out stencils from heavy wrapping paper, or other suitable material. Shellac the stencils and let them dry before using on the doilies. Use oil paints or enamel for coloring the stenciled designs.

119. Lunch Box. — Take a Uneeda Biscuit box or one of similar size and shape. Remove the outer paper. Paint the box black or a flat color. Cut snips from brilliantly colored papers, arrange in designs, and paste on the box. Shellac the box on the outside. Tin cans fixed in this way make useful and attractive containers for the cupboard or dresser. Boil the tin cans in soda water to remove the labels before painting.



Pan Holder

120. Napkin Ring. — Interesting napkin rings may be made either out of cardboard shaped into a ring and covered with raffia, or by braiding raffia and then sewing it together in bands or rings, or by sewing or braiding palm bark into rings. Sweet grass napkin rings are also very attractive.

121. Pan Holder. — Out of canvas or burlap the

children may make small pads, about 5 inches square, and stuff them with cotton. If desired, they may stencil designs in the center. Then they sew a curtain ring or piece of tape to one corner by which the holder can be hung up.

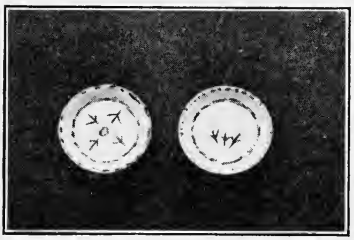
122. Picture Frame. — When children make pictures for the doll's house or play house, they may like to frame them. A frame is made by using four sticks of equal size and length, which are sandpapered, and nailed together at the corners. It is then painted or stained an appropriate color. Sometimes, it may be covered with raffia or palm bark instead of being painted.

123. Pincushion. — Cut out a paper pattern the shape of the cushion which you wish to make. This pattern is than laid on the material and cut out. After the first few times the children learn to cut the material on the fold, or doubled. The edges are sewed and then overwhipped with harmonizing material. Before stuffing, the cushion is decorated, either with crayons or yarn. To stuff, turn cushion cover with seams on the inside, and use meal, sawdust, or cotton.

124. Pillow. — The children may make floor pillows to use when resting on the floor. The pillows are made of burlap 12 inches square, stuffed with cotton and decorated with colored yarn. Pillows may also be made out of sections of newspaper, stuffed with

clipped or torn paper, and sewed around the edges with colored yarn.

125. Paper Plates. — Paper picnic plates may be bought and decorated by the children with original designs in paints and with crayon. For hygienic reasons, the plates should not be used for food unless covered by paper napkins.



Paper Plates

126. Letter Pocket. — A whisk broom-holder or letter pocket is easily made by using two paper picnic plates. One plate is cut in half. The half plate is placed over one half of the whole plate, with the bottoms of the plates on the outside, and the edges are whipped together with colored yarn. The outside is then decorated and a loop of ribbon or yarn is secured at the top for hanging.

127. Folding Ruler. — Three or four pieces of cardboard each 6 inches long and 1 inch wide are marked off in inches. These are then shellacked to make them stiff and durable. The rules are joined together at the ends by brass paper fasteners, thus permitting them to be folded together into one length.

128. Scarecrow. — Scarecrows of various types may be made for the garden. A very successful one

was made of two sticks nailed together in the shape of a cross. A paper bag with a face drawn on it with heavy black crayon was tied over the top. Paper fingers which fluttered in the breeze were nailed to the ends of the arms. A dress was fitted to it, and shoes were tied under the dress. A hat was constructed and pinned in place. Then it was placed in the middle of a garden.

129. Tie Rack. — A successful Christmas gift was the tie rack made "for father." Wooden coat hangers with the strip across the bottom for the skirt or trousers were brought to school. These were enameled in white. Pale pink blossoms and green leaves were painted on the snow-white background of some of them. Others were decorated with holly and trimmed with bows of red ribbon at the top.

130. Vase. — The children may bring to school pickle, olive, salad dressing, mustard, and all kinds of glass bottles and jars that have been emptied and cleansed (the more attractive the shapes the better). These then are enameled a solid color and ornamented with designs. They make effective vases for flowers. They may be rolled in sand when the paint is still damp, to give a different finish.

131. Waste Basket. — There are many practical waste baskets that kindergarten-primary children can make for home and school. A very successful

one is made of cardboard with a bottom 6 inches square. The four sides are 15 inches high, 6 inches wide at the bottom, and 10 inches wide at the top. These sidepieces are tied together at the corners and along the edges and attached to the bottom with fancy colored ribbon or strong yarn. The basket may then be decorated with paints or crayons.

CHAPTER V

Handwork of Art Value

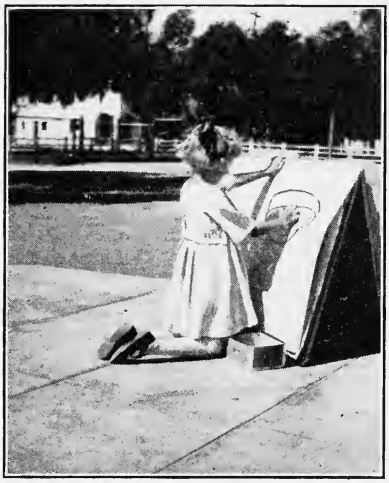
What is the purpose of art study in the public school? Is its purpose to train the child to be an artist, or to enable the child to make more harmonious choices and to beautify his environment? If we agree to the former, then we are right in presenting color and form in abstract applications to be matched, harmonized, or arranged, as the case may be. But if we believe in the latter, then only in so far as the abstract actually functions in the child's life is it of instructional value. "The important question, however, is what specific subject matter is so connected with the growth of the child's existing concrete capabilities as to give it a moving force." (Dewey.)

Art applied is valuable, but art theory is no part of elementary public school training. The primary pupil's only obligation in relation to real art is to be exposed to it, to be saturated with it, to be purified by it; he cannot be expected to express it.

What then is the purpose of elementary public school art education? It is to bring gradually to the child's consciousness the value of harmonious

line and color in dress; tasteful arrangement of flowers; wise choice of pictures; judicious choosing and placing of furniture; intelligent selection of wall paper, paints, and dyes; proper setting of the table; and so forth.

And what is art in its application to the things children do at school? Its aim is to permit the child to express his gradually developing appreciation of the beautiful, even though, in doing thus, he makes many things that are not beautiful to more experienced eyes.



CHILD DRAWING AT EASEL WITH CRAYON

As has been stated, the fine arts form the atmosphere of the kindergarten-primary school; they should not be a part of its course of study. In observing the efforts on the part of primary pupils to decorate and make beautiful, we see a likeness to the art and ornamentation of primitive people. Each Indian was his own artist. He decorated his rugs, food vessels, baskets, walls, dresses, and some-

times his own body, with designs which told the story of his ideals and aspirations.

There appears to be a universal hunger in childhood to represent through picture. This driving force we recognize to be more in the form of manipulation than problem, and so we are prepared to meet and feed it through the following channels: by blackboard drawing, and by the use of easels equipped with large drawing boards where large colored crayons and chalk and large sheets of wrapping paper are used. This latter suggestion gives play with color and forestalls the necessity of taking home the countless picture-manipulations drawn on individual sheets. The easel drawing satisfies this readiness, at the same time permitting the drawings to remain in the teacher's possession as record material, thus preventing what teachers are reluctant to admit but know to be common; namely, the adornment by the children, on their walk home from school, of gutter and pavement with their drawings.

CHAPTER VI

Supplies and Accommodations

In the kindergarten-primary unit, where purposeful handwork is to be carried out in self-organized groups, the initial equipping should be in wholesale quantities. Buy bolts of wrapping paper of different size and weight, large jars of glue and paste, pots of dye and paint, a bolt of stiff lawn, a keg of nails, a load of soft wood, etc.

Much of the following material will come as voluntary contribution from the children's homes:

Berry baskets
Bottles and jars
Burlap
Burnt matches
Buttonmolds
Buttons
Cardboard boxes
Cardboard food containers
Clothespins
Cloth, rags, scraps
Coat hangers
Collar buttons

Cotton
Dowel sticks
Dyes
Glue and paste
Jute
Laundry cardboard
Meat skewers
Milk-bottle tops
Nails
Newspapers
Paints, stains, and enamels
Paper bags
Paper fasteners
Paper plates
Paraffin
Pencils and crayons
Pins and needles
Ribbon rolls
Rope
Scissors
Shellac
Soap
Spools
String and thread
Tin cans
Tissue and crêpe paper
Tools
Typewriter ribbon rolls

Wire in spools
Wood
Wrapping paper

Cases that the metal pins for bookbinding come in can be obtained from a printing office. They make good railroad tracks.

To accommodate and supplement the equipment for purposeful handwork in a satisfactory manner, the following have been found both desirable and necessary furnishings:

Supply Box on Casters

Low shelves and lockers, and window seats with roller drawers and cupboards under them.

A sand box, 6 feet long, 1 foot deep, and 3 feet wide, and raised 6 inches off the floor on ball bearing casters.

A table with a galvanized tray, 2 inches deep, for clay modeling.

A number of omnibuses (supply boxes) on wheels, or substantial boxes on casters, for unfinished materials, patterns, loose paper, etc.

A lumber box with compartments and a tool chest.

A low manual training bench with two vises.

Low easels equipped with drawing boards.

Oilcloth aprons.

A combination of burlap screen on one side and blackboard on the other.

Rollers for bolts of wrapping paper.

Crocks of different sizes for dyes, paints, paste, and clay.

"Utility" is the watchword of the twentieth century, and every branch of human effort must meet the test. . . . Little children are by nature efficient, for they are distinctly motor in their reactions. They turn toward construction instinctively, and handwork in the schools has become the surest means of personal expression and power.

GESELL.

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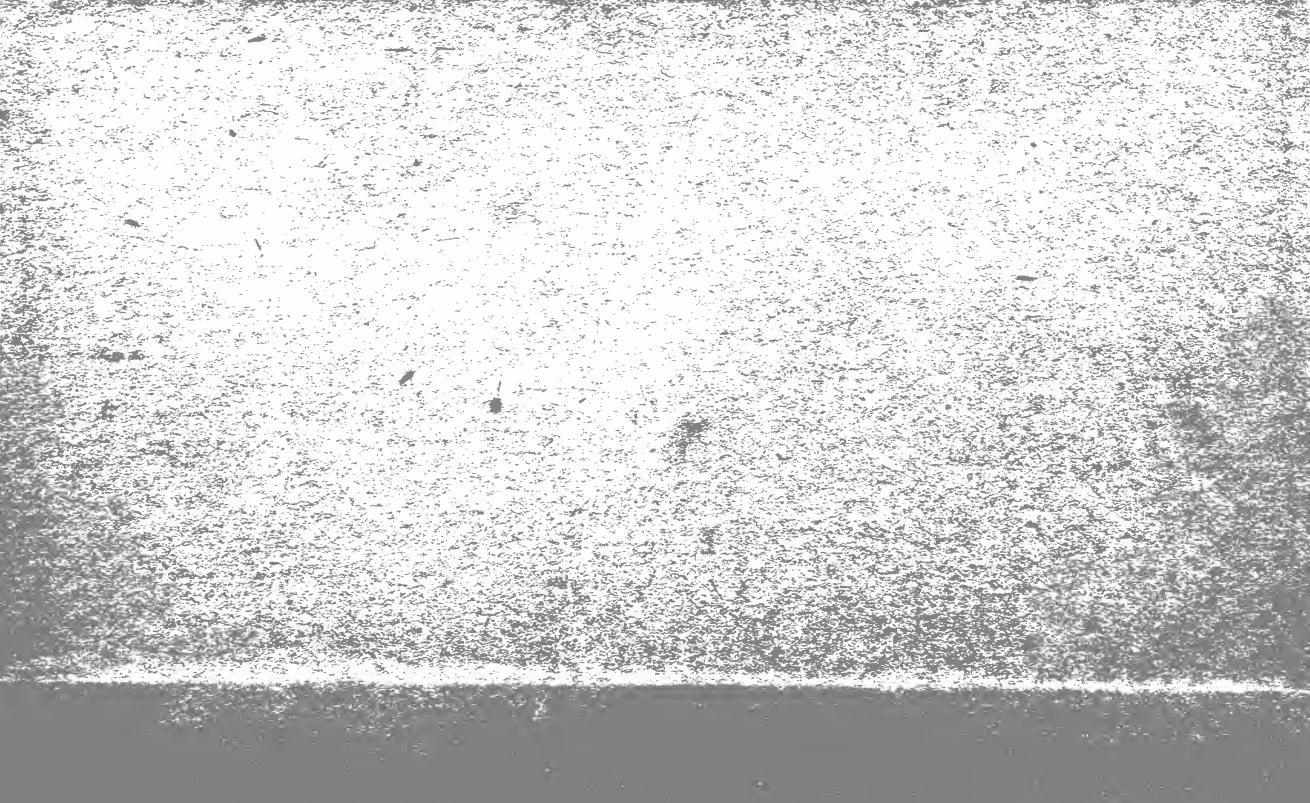

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